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ORIGINAL ARTICLES.

REPORT ON LAWS REGULATING MEDICAL PRACTICE.

Read before the American Academy of Medicine, at its Fourteenth Annual Meeting, at Philadelphia, December 4, 1890.

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SECRETARY OF THE ACADEMY.

The changes in the laws of medical practice during the interval that has elapsed since the last annual meeting of the Academy at Chicago, have not been numerous or worthy of any lengthy notice. As the committee whose duty it has been to make the usual inquiry from gentlemen in each State familiar with the subject, I submit, with a few preliminary remarks, some brief extracts from the letters of such of my correspondents as have graciously responded. It will be seen that restrictive legislation is progressive and that the various State laws are, as a rule, working harmoniously and satisfactorily to the benefit of the public and the credit of the medical profession which has so zealously and actively interested itself in these statutory enactments for the protection of communities and individuals. It has been stated that nine of the different States of the Union now require an attendance upon three complete courses of lectures and graduation to entitle the holder to practice medicine in their limits. Five out of the above number are Southern States and were among the first to make the requirement of a more thorough medical education.

Dr. John H. Rauch, the efficient secretary of the Illinois State Board of Health, is of the opinion that "the rule of three courses of lectures before graduation is already assured of general observance."[1] Perhaps in the not very distant future we may still further advance to the principles laid down in a statute of Henry VII, of England, which reads as follows: "The practice of the healing art should be limited to those persons that be profound, sad and discreet, groundly-learned and deeply studied in physick." And yet we are startled occasionally by the retrograde movement visible even in medical teachers of reputable schools, one of which institutions recently made this frank statement in its annual announcement:

> Our graduates may not be classed as scientific physicians; they may not be able to locate cerebral diseases with the accuracy with which the old phrenologists could place the mental faculties; their abdominal surgery may lack the boldness of "Jack the Ripper;" they may not distinguish the bacterium termo from the comma-bacillus, but they will in a few years be able to apply the resources of medical science and treat the peculiar diseases of their localities with a practical shrewdness which would astonish those of more ambitious training.

The published questions and answers of the State Board of Examiners of Virginia are occasionally to be found in the medical press of the country, and present some of the strongest arguments that can be advanced in favor of restrictive medical legislation. The profession, and especially the public, are to be congratulated on the fact that in that State at least it will not be possible for those who made the following responses to legitimate questions to practice medicine:

> Symptoms of œdema of the glottis are that the patient feels husky and has sore throat. I would amputate it if necessary. I would do the operation within three or four months if it was a bad case.
>
> The dose of morphia sulph. for a child of five years, hypodermically, would be one-fourth grain, and if that doesn't give relief, I would give one-half grain.
>
> The dose of antipyrin for a child five years old is fifteen grains every three hours.
>
> The kidney is a muscular formation, in shape oblong, color quite dark, weight about one pound to one and a half, but may vary considerable.
>
> The sympathetic system is composed of all the filament of nerves that start from the spinal cord, and are distributed to all parts of the system, especially the brain. The cervical portion ramifies the encephalon in general. The dorsal portion ramifies the anus.
>
> Extra uterine pregnancy may be a fungoid groth or tumor fibroid in its character or any extra groth in the utrous would be called extra uterine pregnancy.
>
> A breech presentation may be known by the sense of touch, the buttox being different in formation from the cranium. The anus is different from the mouth, absence of tongue and nose. Get your finger in the inguinal reagion soon as possible and assist your patient by ferm but gental tention.

Dr. John B. Roberts, one of the Fellows of the Academy, in a paper read before the Medical

[1] The chief work of reference for all inquirers as to the provisions of laws regulating medical practice is, of course, the Report by Dr. Rauch of the Illinois State Board of Health, especially its latest issue.

Jurisprudence Society of Philadelphia, last winter, referred to the same subject, and related a number of similar illustrations of ignorance, some of which were quoted from an interesting paper presented some time since to the American Medical Association by Medical Director Albert L. Gihon, U. S. Navy, a former President of our Academy:

The normal temperature of the human body is from 112° to 140°.

The temperature of the system is variable. In health the cuticle stands at 70°.

The average respirations are 70 per minute.

The best way to facilitate the expulsion of the placenta is to let the woman get up and walk about the room, allowing five minutes to elapse after delivery before requiring her to get up and walk.

Phymosis is the result of old age.

The difference between galvanism and electricity is that one of them is the substance itself and the other its use.

Phosphorus burns and makes nitrogen gas.

The technical name of rhubarb is columbo.

The Minnesota Board has also published some of the far from brilliant replies of applicants in that State (*North-Western Lancet*, May 1, 1890). The public should feel happier in the exclusion from the opportunity to practice of such a respondent as he who stated, in reply to a question, that "the gland penis passes through the prostate gland;" or that "in cases of death from suffocation the bronchia remain *in situ quo;*" or that "one of the principal symptoms of scarlet fever is malice on the part of the child . . . the sequelæ may be death or recovery."

Perhaps if education should ever approach in its completeness that said to be now required by the University of Coimbra, there would be hope that even these aspirants for a place in the ranks of qualified medical practitioners might in time be enabled to pass a respectable State's examination; for we learn that in that institution fourteen years' study are exacted; six spent in obtaining an ordinary education, three in a preliminary scientific course, and five in purely medical studies.

We will now, as briefly as possible, pass the various States in review, quoting the opinions of recognized authorities, as exhibited in their personal correspondence up to the latest possible date.

Dr. Jerome Cochran, Senior Censor, Medical Association State of Alabama, writes as follows:

No change has yet been made in our law to regulate the practice of medicine, but efforts to have the law amended are now pending before the General Assembly, with the prospect in our favor.

We understand that additional legislation is required in that State to enforce the penalty.

Dr. R. G. Jennings, Secretary of the Arkansas Industrial University, at Little Rock, writes as follows:

In 1881 was passed an Act "To Regulate the Practice of Medicine and Surgery in the State." This Act has not been amended or changed, although we have at every session of the legislature made earnest efforts to do so. It establishes County Boards of Examiners, and an applicant passing *any county* board, however careless and indifferent it may be to the interests and welfare of the people, is granted the license or privilege of exercising, or rather practicing, in any other county in the State. Some county examiners, therefore, who are *liberal for the fees*, do most all the examining, and thereby injure the profession. We hope to accomplish something in the way of a change this winter, the legislature convening in January, 1891.

In regard to California, a recent editorial in the *Pacific Medical Journal* (August, 1890) makes the following pointed remarks:

California needs a new medical law because her standard is too low, and there is no other way by which to elevate it. It is much lower than that required by many other States in the Union, by Canada and by most, if not all, European countries. The result is plainly apparent. California will become the dumping ground for third-rate practitioners who cannot receive recognition in other places. The *pro rata* of physicians to the population, already high, will assume frightful proportions, and this, coupled with the fact that many of these have been forced from other places because they were illy qualified, or unscrupulous, or both, puts the medical future of California in no flattering position. The people will be in a great measure at the mercy of ignorant and bad men, and the medical profession will suffer disgrace and defeat. This is not an admission that scientific medicine is not able to take care of itself. It means that we, as a State, cannot afford to be behind all others and be compelled to receive and use the material which they cast out as refuse. France has one physician to every 3,000 people, Germany one to 1,500, the United States one to 600, and California, that boasts of her climate and the good health of her people, one to 500. A year ago, Los Angeles had one physician to 301 people, and San Jose one to 221.

From Dr. Frank H. Caldwell, Secretary of the Orange Co. Board of Health, Fla., we learn that:

There has been no change in the laws regulating the practice in Florida. The law in the Seventh Judicial District has been effective; we have succeeded in convicting several who were endeavoring to practice without the necessary license. Our Board will meet on December 12 and there are quite a number of applicants for certificates. Our standard is 80 per cent. As soon as I can get out the questions for examination, I will forward you a copy; and I feel assured that you will recognize the fact that none but qualified practitioners will be able to pass the examination which we give.

The report of the State Board of Health of Illinois for 1889 illustrates the efficacy of its laws for the regulation of medical practice. When the law went into effect there were in the State, engaged in practice, 7,400 persons. Of these 3,600 were graduates from some medical college, while 3,800 were non-graduates. In other words, the graduates constituted only 48 per cent. of all engaged in practice. On January 1, 1890, the percentage of non-graduates to the whole number was only 9. From 3,800 the number has been reduced to 575. The total number of physicians in the State is less now than it was twelve years ago.

Dr. J. F. Kennedy, Secretary of the Iowa State Board of Medical Examiners, writes:

The only change in the Medical Practice Act of this

State since its passage was an amendment to issue certificates to those who had passed satisfactory examinations before *other* State Boards. The law originally did not admit this. Our law is working well. Its beneficent provisions are thwarted somewhat by our pharmacy law, which allows the Commissioners of Pharmacy to issue a vendor's permit to itinerating medicine proprietors, whether physicians or not. Under this permit they practice the grossest charlatanism. Our medical law is yearly growing in favor. It is too liberal in that it allows all kinds of advertising and takes no cognizance of professional or moral character, except that it permits the revocation of a certificate upon the conviction of a felony in connection with his practice.

Dr. J. N. McCormack, Secretary State Board of Health of Kentucky, states that the law has met with general favor with both the medical profession and people. He calls especial attention to the provision which prohibits traveling empirics from registering or practicing at any place in the State. His best information is that it has forced about 400 to either retire from practice or leave the State.

Dr. Lucien F. Salomon, Secretary of the Louisiana State Board of Health, writes that no changes have recently been made in the laws regulating the practice of medicine, and adds:

In regard to my views as to the working of the present Act regulating practice in this State, I have nothing to add to what I have already expressed in a previous communication, except that time has to a great extent cured the defect which existed under section 3 of Act 1882 of the General Assembly of Louisiana (the law under which we are now working). It is very seldom that we now have an application from any one to be registered without a diploma and having been engaged in the practice of medicine for a period of five years prior to the passage of the Act, as provided in said section.

At the last session of the Legislature efforts were made to have the present law amended, but without result. A bill was introduced providing for the appointment of an Examining Board and other regulations, but was killed in committees, owing to the efforts of the homœopathists, who had friends in the Legislature.

From Dr. A. G. Young, Secretary of the Maine State Board of Health, we learn that there have been no changes as to laws regulating the practice of medicine, and that there are no laws whatever bearing upon this point. Some of the legislators who will meet in January are said to be interested in doing something in this direction.

Dr. George H. Rohé, of Baltimore, Md., writes that the last Legislature of Maryland passed a new medical law, but the Governor failed to sign it. They are therefore living under the old law passed in 1888, which is not enforced.

Dr. H. B. Baker, Secretary of the State Board of Health of Michigan, writes as follows:

I think the profession in Michigan are much nearer an agreement on what should be done, than ever before.

At the October, 1890, meeting of the State Board of Health, the subject of an attempt to stop the continued influx of unqualified practitioners was brought up, through a communication from George Duffield, M.D., Secretary of a committee of the State Medical Society, whereupon the following preamble and resolutions were adopted:

WHEREAS, It is agreed by all classes of people that the public health would be much better protected if none but properly qualified persons were permitted to practice medicine, and thus to have in their keeping measures relative to life and death.

Resolved, That it is believed to be practicable, through judicious legislation, to so organize the present legal medical practitioners in Michigan, as that through representatives, elected by themselves, they shall guard the entrance to the profession, by a preliminary examination of students and a final examination of graduates of colleges and of proposed practitioners who come from other States, so that the entire medical profession of this State shall be united in the effort to improve the qualifications of its new members.

Resolved, That the Secretary of this Board be directed to transmit a copy of the foregoing preamble and resolution to the chairmen of the committees on public health in the Senate and House of Representatives in the State Legislature, as soon as it is in session.

Dr. Arthur Sweeney, Secretary of the State Board of Medical Examiners of Minnesota, writes as follows:

No changes have taken place in the Minnesota Medical Act since its passage in 1887. The three years of legislation in Minnesota have demonstrated the wisdom of the framers of our law. During the two years from July 1, 1885, to July 1, 1887, 429 licenses were granted by the former Board, under the law which recognized diplomas from reputable schools and exacted examinations only from non-graduates. During the three years of the present law 223 applicants have been examined, of whom 138 were licensed (61.92 per cent.) and 85 rejected (38.08 per cent.). This lessened number of applicants is due in part to a wholesome fear of not being able to pass the examination on the part of poorly educated physicians, and in part to that provision of the law which requires that candidates having graduated later than 1887 "must present evidence of having attended three courses of lectures of at least six months each," thereby excluding graduates from short term medical schools.

The law has passed the stage of opposition, its beneficial operation awakening a public sentiment in its favor which ensures its permanency. The law is administered, not in the interest of the physician, but for the benefit of the community, in order that the public may be assured of the character, ability and education of its physicians. It has proven a bulwark against quackery and the less obvious peril of ignorance and incompetency, and has practically rendered Minnesota free from "cancer doctors," itinerant medicine vendors and other mountebanks that disgrace so many States. It has operated with severity upon half-educated and incompetent physicians, and has mercilessly driven from the State all except those whose ability and fitness were demonstrated by rigid examination. The law has reduced the number of "irregulars" (those who were non-graduates or who were licensed by reason of practice prior to the passage of the law), from 351 in 1883 to 263 in 1888, and to 149 in 1890. This is due to the fact that the advent of a better educated and more scientific class of physicians has driven to the wall the larger part of that dangerous element.

The especial benefit of the law is in the fact that the standing of the physician in the eyes of the public is improved, for practically the license of the Board is a certificate of ability and competency.

My experience leads me to believe that the best results in the line of higher medical education can be derived from compulsory preliminary examination by medical colleges, the lengthening of the term of instruction, and the separation of the diploma-granting body from that which gives the instruction. The establishment of a uniform medical law in all States, on the basis of that recommended by the American Medical Association, would be a great benefit; but, unfortunately, the time has not yet come to render it feasible.

In conclusion I would say that the Minnesota medical

law has proven its efficiency, has raised the standard of medical education within the borders of the State, has driven out and prevented the influx of quacks, has promoted harmony among physicians, and has protected the public. I would call your attention to the fact that North Dakota has adopted a law identical with ours, and that Washington has one based upon it.

Dr. George S. Homan, Secretary of the State Board of Health of Missouri, reports that no changes have been made in the law regulating the practice of medicine in that State since its enactment in 1883. In his opinion the change desirable to be made would be in the direction of placing this duty exclusively in the hands of the medical profession of the State through a body chosen by themselves—briefly the right of self-government.

The *Boston Medical and Surgical Journal*, October 9, 1890, states that the new law of the State of New Jersey, which went into operation recently, contains some features worthy of note.

The execution of the law is vested in a Board of nine members, appointed by the Governor for terms of three years. It is provided that the Board "shall consist of five old school, three homœopaths, and one eclectic," and further, that "no member of any college or university having a medical department shall be appointed to serve as a member of said Board." The new regulations apply only to those who commence practice in the State after the passage of the Act, preceding practitioners being already registered under a previous law.

All examinations are to be in writing and both "scientific and practical, but of sufficient severity to test the candidate's fitness to practice medicine and surgery. If the applicant intends to practice homœopathy or eclecticism, the member or members of the Board of those schools shall examine said applicant in materia medica and therapeutics." A license shall not issue unless the applicant passes an examination satisfactory to all the members of the Board.

A somewhat peculiar feature of the law provides that any applicant refused a license by the Board "for failure on examination, may appeal from the decision of said Board to the appointing power thereof, who may thereupon appoint a medical committee of review consisting of three members, one from each school of medicine, who shall examine the examination papers of the said applicant, and from them determine whether a license should issue, and their decision shall be final. If said commission by an unanimous vote reverse the determination of the Board, the Board shall thereupon issue a license to the applicant. The expense of said appeal shall be borne by the applicant."

The Board may by a unanimous vote refuse to grant a license for the following causes: "Chronic and persistent inebriety, the practice of criminal abortion, conviction of crime involving moral turpitude, or for publicly advertising special ability to treat or cure diseases which, in the opinion of said Board, it is impossible to cure."

The power of the Board is evidently very great, but it would be difficult to arrange a greater number of safeguards. In fact, it may be a question whether the safeguards against possible injustice are not so great as to hamper the action of the Board.

In New York State, it was mentioned, editorially, in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, that:

The law approved by the Governor on June 4, 1890, will mark a new era not only in New York, but, incidentally, in the entire country. . . . The first cardinal point which occurs to us is this: that the State presumes to reaffirm and to emphasize the fact that it alone has jurisdiction over the practice of medicine within its own limits. It may not only determine as to who may practice medicine, but it also presumes to assert what the qualifications of its practitioners shall be. In the exercise of this power it recognizes the responsibilities which it assumes, and seeks to make the best provision. In the second place, it proposes to redeem the profession from illiteracy by the requirement of a satisfactory preliminary education as a condition to an entrance upon the study of medicine. In the third place, it provides for a definite and uniform standard of examinations, and each and every student must attain to that standard as a condition to graduation. In the fourth place, it divorces medical teaching from the licensing power. To this end the Examining Boards are under the supervision of special examiners, who are appointed by the Regents, and who themselves cannot be members of those Boards. And finally, it compels the colleges to teach their students three years, instead of two.

We have, then, in this single bill, the requirements of preliminary education; a definite standard for examinations; a separation of teaching from the licensing power; and a three years' college course. Thus grandly has the State redeemed itself from what had threatened her as a sad misfortune.

The *Medical Record*, in an editorial written soon after the approval of the bill, is not wholly satisfied with its provisions. It states that:

The law allows any person who wishes to matriculate as a medical student, to pass his preliminary examination at any time during his first three years of study. This practically nullifies the law, and permits any man to enter upon the study of medicine without a test of his educational fitness. The law, as it stood before, had some defects which could have been easily remedied. The present amendment totally destroys its force. It was secured, as is well known, through the political influence of the managers of certain medical colleges of this city, and against the wishes and judgment of the medical profession of the State as a whole. The second piece of pernicious legislation was the enactment of a law establishing three Boards of Medical Examiners. This was done, also, despite the protests of the vast majority of the medical profession, including even many prominent homœopaths. We trust that next winter there will be concerted action to secure the repeal of the triple board law. A law was passed providing that physicians who come from another State must pass a qualifying examination before beginning to practice here. This law is a wise and proper one.

Dr. W. J. H. Bellamy, of Wilmington, N. C., writes as follows:

No one can now practice medicine in North Carolina unless licensed by our Board of Medical Examiners. The penalty for violation of law is fine and imprisonment. All physicians had to register prior to January 1, 1890. Since that time only licentiates can register. The law seems to be working well.

According to the new law regulating medical practice in North Dakota, no one can practice medicine until he has passed an examination in all the primary and final branches. No one will be admitted to such examination until he has taken at least three courses of lectures of six months each.

Oregon has a Medical Practice Act, and it was not long in force before it drove from one of the cities a certain advertising specialist. A local paper commented upon this result as follows:

Upon what hypothesis the Board rejected his diplomas

we can't divine. Dr. A—— is one of the oldest specialists on the American Continent, and seventeen years ago he practiced in this city for a period of four years. He has practiced in San Francisco, Philadelphia, Chicago, and many other cities of like importance, and is recognized as one of the greatest eye and ear physicians of this age. This unfortunate circumstance will certainly be an unwelcome piece of news to the press of this coast, as the doctor is one of the heaviest, and most extensive advertising physicians in America, and had he located in Portland, as he expected to do, he would have advertised in every newspaper on the coast, and probably spent $50,000 the first year with newspapers.

The *Medical Record* recently referred as follows to legislation in Oregon:

In a bill to regulate the practice of medicine, recently introduced in the Oregon Legislature, there is a clause, providing for the revocation of licenses for "unprofessional conduct," which is defined in the bill as follows: First, the procuring, or aiding or abetting in procuring, a criminal abortion. Second, the employing of what are known as "cappers" or "steerers." Third, the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured. Fourth, the wilfully betraying of a professional secret. Fifth, all advertising of medical business in which untruthful and improbable statements are made. Sixth, all advertising of any medicines or of any means whereby the monthly periods of women can be regulated or the menses reestablished if suppressed. Seventh, conviction of any offence involving moral turpitude. Eighth, habitual intemperance.

At the last annual meeting of the Pennsylvania State Medical Society, it was decided that the presidents of the State and county medical societies should constitute a legislative committee "to secure the passage of a medical law that will give protection to the people of this State against incompetent practitioners of medicine." The present registration law has never been regarded as anything more than a stepping-stone to restrictive laws of greater force and character.

Dr. H. D. Fraser, Secretary of the State Board of Health of South Carolina, reports that the laws regulating the practice of medicine have undergone no recent changes. The profession is satisfied with them, as they seem to be all that is necessary.

Dr. D. E. Nelson, Secretary of the State Medical Society of Tennessee, states that

The only laws that have ever been passed by the legislature of this State were passed two years ago, and although imperfect as you will see, or have seen, they work a great deal of good, and I think, after some modifications, which we hope to secure at this winter session of the legislature, will do a great deal more of good. There is no rebelling against the law. There are two points in our law which I think should be changed. One is that any one can act as a *midwife;* the other is that all parties should be subjected to an examination, for, as we all do well know, some unworthy men are allowed to practice with a diploma from what stands as a good school.

Dr. George Cupples, the efficient Chairman of the Committee on Legislation of the Texas State Medical Association, has prepared a circular letter to the medical profession of that State in reference to the total neglect of preventive medicine in Texas, through the failure of previous legislatures to frame enactments on sanitation, notwithstanding the earnest and repeated prayers of the profession; the widefelt necessity for such legislation, has placed that great and wealthy State in a contrast anything but honorable, with the position occupied in this matter by no less than thirty-five States which have created Boards of Health, charged with the care of the public health, and with the care of admitting none but competent physicians to practice medicine and surgery in their limits. A draft of a law is offered by this committee which, it is hoped, will be adopted by the legislature when it convenes.

The Medical Examining Board of the State of Washington consists of nine members, appointed by the Governor, three only of whom are regular physicians. A committee of the State Medical Association was appointed to draft a communication to the Governor protesting that over 700 of the 800 practicing physicians in the State are regular, yet the profession is in a minority on the board, and asking that a redistribution may be made whereby they may have a pro rata representation in that body.

A correspondent of the *Medical News*, under date of August 16, 1890, referring to the examination in that State, writes that

Laying aside all prejudices, a perusal of some of the questions of the "physio-medic" and eclectic members will show the injustice of having men of that class on the board. During the examination the writer carefully copied the questions, and, in some instances, the spelling—for the question-sheets came to us in the handwriting of the members by whom they had been prepared. The "physio-medic" asked, "What is *pertusses?*" and also the very comprehensive question, "What does delayed dentition prognosticate?" To this last I could not answer, nor could the two or three members of the board, to whom I afterward repeated the question. In Diseases of Women he questioned upon "*leucarrhœa*," "*amenarrhœa*," and "*dysmenarrhœa.*" Other questions of his were, "Define *mammary absess,*" and "What is pelvic *absess?*" while the last question was upon "lacerated *peroneum.*"

The eclectic prepared questions on anatomy and physiology, one of which read as follows: "Name the divisions of the abdominal aorta, large branches, and from where *does* the lower extremities derive *there* blood-supply?" Another asked, "What's the *peremtory* condition of pepsin in the stomach?" to which we afterward discovered he wished us to answer "Hydrochloric acid." Another question was, "What's the effect of *too much* red corpuscles in the blood?"

Under the heading of Preventive Medicine in the list of questions prepared by a homœopath, we found two as follows: "What means would you take to resuscitate from an overdose of chloroform?" and "How would you treat a case of poisoning from opium or morphia?" He evidently looks at the subject broadly, and thinks that any means of preventing death should be placed under the head of preventive medicine.

Dr. T. A. Harris, Parkersburg, W. Va., says:

I think that with time the laws regulating the practice of medicine in this State are being enforced. At first there was some difficulty, but I think with each year that difficulty has grown less, and year by year there is less objection manifested and less disposition to evade them; and further, the body of the people, the laity, are more and more disposed to support them. At first there was a feeling that certain doctors had gotten the law

passed for their personal advantage, but the people are coming to see the true purpose of the law; and it is certain that neither this nor any law can be enforced in face of a decided popular opposition.

Dr. J. T. Reeve, Secretary of the Wisconsin State Board of Health, writes that there have been no new laws enacted and no recent changes have been made in the laws of that State.

Dr. Francis W. Campbell, Secretary of the College of Physicians and Surgeons, Province of Quebec, states that the present Medical Act has been in force in this Province for ten years, and seems to give, upon the whole, good satisfaction.

Dr. R. A. Pyne, Registrar of the College of Physicians and Surgeons, of Ontario, Dominion of Canada, writes as follows:

> There have not been any changes made in our Medical Act since the year 1887, when we got some amendments, the important features of which are, limiting the time of action in cases of malpractice. The other part of the amendment refers principally to the erasing of names for unprofessional conduct; some similar powers exist in the Imperial Medical Act, and every year they strike the names of practitioners from the list for irregular unprofessional conduct.

This paper concludes the series of annual reports in regard to "Laws Regulating Medical Practice," which it has been my pleasant duty to prepare and offer, as Secretary of the Academy, annually for your consideration, and which, by my resignation of the office, it will become the duty of my successor to continue.[2] A retrospective glance at these annual sketches, from their inception, would exhibit evidence of gratifying progress in the different States of this country in the effort to repress quackery and to protect the public against the imposition of the ignorant and incompetent.

THE BASIS OF SCIENTIFIC MEDICINE AND THE PROPER METHODS OF INVESTIGATION.

Introductory Lecture delivered in the Post-Graduate Medical School of Chicago, January 6, 1891.

BY N. S. DAVIS, M.D., LL.D.,
OF CHICAGO, ILL.

Gentlemen and Members of the Medical Profession:

We have assembled this evening to inaugurate the first formal course of post-graduate medical instruction in this building, recently completed and dedicated to the interests of the sick and to an important department of medical education—a department, indeed, that had its first beginnings in this city and in connection with the Chicago Medical College.

At the close of the regular annual college term of the Chicago Medical College in the spring of 1880, the faculty inaugurated a well arranged course of four or six weeks' duration, exclusively for the benefit of practitioners or graduates in medicine. The course was largely clinical and practically demonstrative, but included also a review of whatever was new in etiology, pathology and therapeutics. It was attended by thirty-nine practitioners from this and seven of the surrounding States, and was repeated annually for several years. Its marked success attracted general attention, and speedily led to the institution of similar courses in connection with the Rush Medical College, and with several of the leading medical colleges in other cities. This rapid increase in the number of such courses in different cities, and nearly at the same season of the year, so divided the number of practitioners who could afford to leave their practice, that the number in any one college was too limited to make it profitable to maintain them, which naturally led those teachers connected with the several schools and hospitals to unite in forming separate schools for post-graduate instruction, in which short courses to limited classes could be given, in nearly all parts of the year, and on all practical subjects of importance. The important department of post-graduate medical education, thus inaugurated in this city only ten or eleven years since, has not only demonstrated its importance and established its permanent institutions, called polyclinics and post graduate schools, in the leading cities of this country, but the same is now beginning its development in London and other places in Europe. It is appropriate, therefore, that I should embrace this opportunity to emphasize both its origin and gratifying progress, before entering upon the discussion of the topic announced for this evening.

What constitutes the basis of scientific medicine, and what methods of investigation are best adapted for its study and more complete development, are questions worthy of most thoughtful consideration. There are still those, both in and out of the profession, who deny that medicine has any scientific character, and who talk and write of old and new "schools of medicine" consisting of the theoretical dogmas of some dreamers of past generations. But in doing so they only betray the shallowness of their own attainments, and especially their ignorance of the real medicine of to-day.

If there be no scientific basis for modern medicine, then there are no sciences known to the human family except those of pure mathematics; for the facts and materials that constitute the different branches of medicine are taken or segregated from every other science or department of human knowledge. Some sciences, as the mathematical, are composed of such facts and propositions as are capable of being so placed in relation to each other as to admit of the deduction of fixed and uniform conclusions, and hence are called

[2] Dr. Dunglison was, by a special complimentary resolution of the Academy, at its annual meeting December 4, 1890, appointed a committee of one to continue annually his interesting reports on the progress of medical legislation and the working of laws regulating medical practice.—Editor JOURNAL A. M. A.

"deductive sciences." Others are composed of so great a variety of facts or elements, many of which are influenced by varying or unstable causes, that they admit only of careful comparison and classification in such manner as to admit of conditional inductions or inferences instead of uniform conclusions. Hence, since the days of Bacon, they have been called "inductive sciences." To this division belong geology, botany, and, indeed, all the branches of knowledge concerning the vegetable and animal kingdoms of nature. No one of these branches of knowledge or natural sciences are complete. That is, all the facts and relations belonging to any one of them have not been fully observed and classified; yet no one denies the propriety of calling them sciences, incomplete, it is true, but each progressing towards completion with every additional accurately observed fact or improved means and method of investigation. Every recognized branch or department of modern medicine is composed of facts and principles belonging to the wide domain of natural and physical sciences and their application to the relief of human suffering, and consequently is fully entitled to the name of "inductive science." Until full and accurate dissections had revealed all the structures of the human body and their relations to each other, and observation and experiment had revealed the uses or functions of each part, there could be no science of human anatomy or physiology. And until the progress of elementary and organic chemistry had revealed the composition of the fluids and solids of the human body in health and disease, there could be no science of medical chemistry and materia medica. All these have had their origin and development during the last three centuries. And yet human anatomy and physiology including histology, and medical chemistry and materia medica, constitute the basis of all scientific medicine. All that is valuable or established in etiology and sanitation has resulted from the application of medical chemistry and histology to the study of the causes of disease; pathology and pathological anatomy are but abnormal physiological and anatomical conditions; therapeutics consists in the adjustment of the materials of materia medica to the control of pathological processes; and the details of operative surgery and midwifery are but the application of anatomical and physiological knowledge to the correction of deformities, the relief of injuries and the removal of obstructions to which the human body may be liable.

Hence, I repeat that those departments of the great fields of natural and physical sciences known as anatomy, histology, physiology, pathology, medical chemistry and materia medica, constitute the acknowledged basis of modern medicine; while therapeutics or practical medicine, surgery, and sanitation or preventive medicine, are strictly applied sciences developed by the same methods of observation, experiment and induction that have brought into existence all the other inductive sciences. Dr. W. N. Broadbent, in his interesting address before the British Medical Association at its recent meeting in Birmingham, on "Therapeutics as an Applied Science," says "that therapeutics must always belong to the order of applied sciences, and will bear much the same relation to physiology in an extended sense as engineering to mathematics. Just as engineering is applied mathematics, therapeutics will be applied physiology." If in the foregoing paragraph, and throughout his address, Dr. Broadbent had substituted the word *pathology* for physiology, his declarations would appear to me far more correct. Physiology is the science that embraces all the facts, principles and laws relating to the healthy or normal processes or changes taking place in living beings; and may be properly styled the science of health. Pathology is the science that embraces all the known facts, principles and laws relating to such deviations from the normal or physiological processes as constitute disease, and is, therefore, physiology applied to the study of abnormal conditions. Therapeutics relates to the application of remedies for the control, not of healthy or physiological processes, but of morbid or pathological conditions, and is consequently applied pathology.

Dr. Broadbent fairly concedes this when in another part of his address he says: "By therapeutics we mean all those measures by which we combat and endeavor to subdue disease, and if we ask what would fulfil the conditions of therapeutics as a science, the answer would be, a complete knowledge of the processes of disease on the one hand, and of the mode of action of remedies on the other."

This is a concise and correct statement of the real relations of therapeutics to pathology, and clearly points to those methods of investigation by which the scientific character of both can be rendered more nearly complete. As the "processes of disease" (pathology) are simply deviations, in some direction, from the normal standard of the processes of health (physiology), a successful study of the former must have for its basis or point of departure a complete knowledge of the latter. In other words, our knowledge of the physiological or natural processes taking place in every organ and structure of the human body, and the agencies by which they are maintained, must be complete, before we can appreciate with clearness and certainty the pathological or abnormal processes taking place in the same structures, and the causes that may produce them.

The present advanced condition of organic and analytical chemistry, with the varied instruments of precision founded on mathematical and physical laws, furnish the means, if correctly and patiently

directed in the proper lines of experimental research, for making our knowledge of human physiology as complete as an inductive science can be made. And the same means, applied with the same accuracy and patience to the investigation of the morbid processes constituting disease, would speedily render our knowledge of pathology sufficiently complete to constitute a reliable basis for an applied science of therapeutics.

I will go one step farther, and venture the assertion that if the same modern chemical, philosophical and mathematical resources for observation and experimental research, were carefully and accurately directed to the study of etiology, or the causes of disease, that important department of the great field of medicine, hitherto filled with a chaotic aggregation of partially observed facts, fanciful speculations and false assumptions, would soon attain all the characteristics of a true science, and furnish a more reliable basis for sanitation, preventive medicine, and one of the most important indications or purposes in the treatment of disease.

One of the most important obstacles to real progress in scientific development and accuracy, is the want of perseverance on carefully devised plans for insuring completeness of investigation before announcing results.

Almost every problem within the domain of etiology, pathology and therapeutics, is complex from the number of the elements requiring consideration for its correct solution, and sometimes the coincident work of different individuals to secure the same end. Very much of our scientific and experimental work is done in fragments, and necessarily results in the development of isolated facts and partial views, filling the pages of our literature with ever changing and often contradictory inductions. For example, during the last two decades of time it has been claimed that abnormal temperature or pyrexia is the chief pathological factor in the general fevers; and by logical inference that antipyretics constitute the chief remedies. Hence, as often as the pharmaceutical laboratories developed a new, complex, artificial compound of the coal-tar series, and the experimental therapeutist proved it capable of reducing the temperature of the body, it was applied with the greatest freedom for the control of the pyrexia of all general fevers. The two isolated facts of high temperature and the antipyretic property of the remedy, were the sole guides of the physician, and in many instances to the ultimate detriment of his patients. That complete knowledge of the processes of disease mentioned by Dr. Broadbent, requires not only the fact of high temperature or pyrexia, but also the processes by which it is produced in each variety of fever. Physiology has taught us that in the living, healthy animal body there are in constant operation processes by which heat is produced, and other processes by which it is dissipated, and that the natural temperature is the balance or average result. Consequently, abnormally high temperature must result either from a diminution of the processes of heat dissipation, or from an increase of those of heat production, or from an unequal alteration of both. It follows that one remedial agent, when properly used, will act as an antipyretic by increasing heat dissipation, and another by diminishing the heat production; and the true scientific basis for choice of remedies in a given case of pyrexia, is a clear knowledge of the *modus operandi* of the remedial agents, and an equally clear appreciation of the processes on which the abnormal temperature depends.

Another serious obstacle to scientific progress consists in the frequent formulation of inductions, or more properly assumptions for practical guidance, founded on an inadequate number of facts, and sometimes on mere analogies. Thus, when in the progress of organic and physiological chemistry, it had been fully demonstrated that the chief proximate elements of our food could be divided into two classes, one of which was composed essentially of oxygen, carbon and hydrogen, and the other of these three with the addition of nitrogen, the first were called hydro-carbonaceous and the latter nitrogenous foods. And as the organized elements of animal tissues were composed of the same four elements, it was *assumed* that the nitrogenous elements of food were appropriated to the growth and repair of such tissues; and as oxygen disappeared through the air-cells of the lungs and was replaced largely by carbonic acid, as in combustion out of the body, it was *assumed* with equal positiveness that the hydro-carbonaceous food elements united with oxygen in the living body, resulting in the formation of carbonic acid and water and the evolution of heat, and hence were called respiratory foods.

The only facts clearly demonstrated by experimental investigation were that the oils, starch, sugar and gum in our food were hydro-carbons, and that the albumen, fibrin, casein, gluten, etc., were nitrogenous, on the one side; and on the other, that the living animal structures were nitrogenous, with a constant consumption of oxygen and liberation of carbonic acid and heat. The inductions from these facts, that the carbonaceous food elements only were converted into carbonic acid, water and heat; and that the nitrogenous were converted into tissues, were simple theoretical assumptions, without the support of a single well devised series of experiments for their demonstration, while many accurately observed facts militate against their correctness. These theoretical assumptions were not limited to the food elements I have named, all of which are the products of vegetable or animal growth, but were extended to many other substances of entirely different origin merely on account of analogous chem-

ical composition. For example, the chemist readily demonstrated that all the varieties of alcohol were composed of oxygen, hydrogen and carbon, and consequently were chemically pure hydro-carbons; and as the ethylic or common alcohol was being largely used in fermented and distilled drinks, it was directly assumed that it united with oxygen in the living system, resulting in the production of carbonic acid, water and heat; and was placed in the front rank of respiratory foods. These simple theoretical assumptions, plausibly illustrated by many supposititious chemical formulæ, have occupied a prominent position on the pages of both medical and general literature from the days of Baron Liebig to the present time. And yet, all the carefully devised and patiently executed experiments of the chemico-physiologists of Europe and America have only proved that the hydro-carbons derived from vegetable and animal growth undergo molecular or metabolic changes in passing through the digestive organs before appearing as natural elements of the blood, while those derived from fermentation or retrograde processes undergo no such molecular changes in the digestive organs, but are rapidly imbibed and appear unchanged in the blood, thereby demonstrating that mere analogy of chemical composition can afford no safe basis for the inference that the same analogy will apply to their behavior when taken into the living body. I may add that these numerous experimental researches, aided by all the modern instruments of precision, have failed to develop any evidence that the presence of the alcoholic class of hydro-carbons in the living system is productive of either carbonic acid, water, heat or any other kind of force, but the reverse. Indeed, the plain tendency of present experimental researches is towards demonstrating the fact that the vegetable kingdom only can assimilate and grow from inorganic matter and the products of retrograde or destructive processes, while the animal kingdom assimilates and appropriates to itself only the products of vegetable and animal growth.

Still another potent hindrance to scientific progress, is the constant tendency to concentrate all attention on the results of any new line of investigation that may be started to the neglect or rejection of facts and inductions previously well established, and their value verified by abundant clinical observation. Up to the close of the first quarter of the present century the processes of disease were studied and classified by a patient and close observation of the actual symptoms or phenomena of disease at the bedside of the patient; and the effects of remedies were determined by careful study of the results of their empirical use with only the limited aid offered by general chemistry. The same methods of observation were applied to the study of the causes of disease, especially in relation to the conditions of the climate, soil, water, seasons of year, age, sex and occupation. It was preëminently the era of symptomatology and active medication, during which were established many important facts in both pathology and therapeutics, and was accompanied by fair success in the treatment of disease as reliable records will show. But with the second quarter of the century came the brilliant studies in morbid anatomy led by Louis, Chomel, Gerhard and others, resulting in more accurate differentiation of diseases and more exact knowledge of the structural changes in the several stages of their progress.

To this was soon added the application of the microscope to the study of minute anatomy, both normal and abnormal; and hence the study of morbid processes at the bedside rapidly gave place to the study of the results of morbid processes in the morgue and in the laboratory, culminating in the evolution of the cellular pathology of Virchow and the substitution of pathological anatomy for pathology proper. Just in proportion as these structural changes and the associated cell proliferations came to occupy the attention of the profession, carrying with them the thought that diseases were fixed processes of development, maturity and decline; in the same ratio active interference with remedies was discouraged and an era of therapeutic skepticism, expectancy, or faith in the *vis medicatrix naturæ* as presented in the popular writings of Bigelow, Forbes and Holmes, ensued. All the active therapeutic measures of the preceding era were declared unnecessary or injurious and were superseded by fresh air, more cleanliness, more food, and patience until the climax was reached in the declaration of Chambers, that all disease is a diminution of life, and all proper treatment is to sustain or support the life. Consequently food and so called stimulants became as popular as depletion and evacuants had been during the preceding era. But only a few decades were allowed to pass before the continued use of the microscope in the study of pathological anatomy, revealed the fact that in all the protracted fevers, or acute general diseases, extensive molecular and tissue degenerations were developed with an increasing ratio of mortality. This led to the erroneous opinion that the protracted high temperature of pyrexia was the *cause* of such general molecular degeneration, and as a necessary inference, that the most important purpose to be gained by treatment was to hold the temperature in check by antipyretic measures. The cold douche, the cold bath, the cold sponging; sedative or large doses of quinine, salicin, and other antipyretic remedies were so rapidly brought into use, that the third quarter of the century had hardly closed before acute diseases were being treated with more active agents and more heroic doses of medicine than during any part of the first quarter. This reaction towards

heroic medication has been greatly increased by the application of the microscope to the study of etiology, and the consequent rapid increase of knowledge concerning the relation of certain microörganisms to the prevalence of diseases.

The discoveries of Pasteur, Koch, Eberth and many others, in this field, have so completely concentrated the attention of the profession on bacteriology and pathogenic microörganisms, and the consequent search for antiseptics and germicides as therapeutic agents, that the bacteriology and bacteriological therapeutics of to-day have as fully superseded the pathological anatomy with its therapeutic skepticism of thirty years since, as did the the latter symptomatology and antiphlogistic therapeutics of the first half of the century. And the century bids fair to close with the profession combating disease not only with as active or heroic measures, but also with many of the same remedies that were most relied upon at its beginning. Then, opiates, to relieve pain, the two chlorides of mercury and iodine to control morbid processes, and quinine and kindred alkaloids to subdue fevers, were the chief remedies in the hands of the general practitioner; and now, under the names of anodynes, antipyretics, antiseptics and germicides these same remedies are being used with even greater freedom than at any former period in medical history. It is not the adoption and vigorous prosecution of these successive methods of investigation during the present century that constitutes an evil, for each was necessary and has added greatly to the stock of most important medical knowledge. But the evils result from the spirit of exclusiveness, dogmatism and indulgence in positive inductions from insufficient facts that characterize their pursuit, and the consequent neglect or disparagement of all that had been done before. It is the indulgence of this spirit, that makes those entering the profession during any given era, regard its methods of investigation and their results, as the chief topics worthy of their attention and strongly encourages the neglect of medical history and begets a narrowness of mental vision highly detrimental to true medical progress. Instead of permitting every new appliance or method of inquiry that opens before us a new or additional field for investigation to displace or supersede all others and engross our whole attention, the true philosophical spirit of inquiry requires us to hold all the facts and inductions that have appeared well established in one era until those of the next have been studied in all their aspects and relations to each other and to all that had preceded. A close adherence to this rule would effectually check the strong tendency to draw hasty conclusions from an inadequate number of facts or observations, and the results of every new line of inquiry would constitute real additions to our knowledge, supplying previous defects, enabling us to make new or more accurate applications of old remedies or facts, and sometimes furnishing both new and valuable agents and new principles to guide their practical application. All the departments of medicine would thus progress in more harmony, and medical literature would become more free from mere theoretical assumptions and contradictory statements. A more thorough study of the history of medicine, and in consequence, a greater familiarity with the successive steps or stages in the development of its several branches, would enable us to see more clearly the real relations and value of any new fact, induction, or remedial agent that might be proposed. It would also enable us to avoid a common error of regarding facts, propositions and remedies presented under new names, as really new, when they had been well known and used long before, but in connection with other names or theories. Such errors are of frequent occurrence and occupy prominent places in the medical literature of to-day. The true spirit of scientific investigation welcomes every new fact, suggestion, or remedy, but holds it under careful scrutiny until all its relations, chemical, histological, physiological and pathological have been well considered. Is a new remedy proposed for the treatment of an important and well known disease, we need to know its chemical composition and affinities or reactions, its histological development if of organic origin, and its relation to other substances of similar character, to enable us to proceed intelligently and safely with its therapeutic use. Otherwise our use of the remedy must be purely empirical or blindly experimental.

A remarkable instance of this kind is at present occupying the attention of the entire profession and a large part of the public. The eminent bacteriologist, Dr. Koch, has prepared, and presented for use, a remedy that he thinks will cure pulmonary tuberculosis, especially in its earlier stages, and specifies the dose, the mode of administration, and the symptoms or effects produced by it, but positively declines to reveal its chemical composition, its mode of preparation, or even the class of substances to which it belongs. Consequently members of the profession must use it conscious that they are groping in the dark, or they must adhere to the time honored rule against using secret remedies and let it alone until the author and his immediate advisers fully make known the nature and preparation of the remedy and the clinical proof of its efficacy. Taking the remedy, however, simply as proposed by the author, it will require a most careful and connected clinical experimentation through a period of five or ten years, to determine its actual value as a remedy for tuberculosis. A few weeks of its administration is said to remove the more obvious symptoms, as cough, expectorating, etc.; but the

physical signs of tubercular accumulations in the lungs or elsewhere cannot be expected to entirely disappear in less than from six to twelve months, and the question of relapses cannot be reliably determined until from three to five years have passed. Should relapses occur, as seems probable from some indications already reported, the collateral effects of the remedy on the kidneys, the blood, and the nervous system, when resorted to every few weeks or months to arrest such relapses, will be required to be studied with equal care.

The general symptoms produced by the hypodermic use of the remedy, as described by Dr. Koch and his co-laborers, strongly resemble those of an actively poisonous ptomaine or peptotoxine, and hence it is generally supposed to be derived from the cultures of the tubercular bacilli. Only two reasons have been assigned for refusing to publish a complete statement of the composition and mode of preparation of the remedy. These, as given more fully by Von Gossler as the official representative of the Prussian government, are, first, that the actively poisonous nature of the remedy makes it necessary that the utmost care and skill be exercised both in its preparation and use; and second, that Dr. Koch has thus far not been able to render his process of manufacture sufficiently complete to obtain his *fluid* of uniform strength or quality and must consequently test, by actual trial, each product before it can be given out for clinical use. The first of these reasons is the same as that urged by every manufacturer of proprietary and trade mark medicines throughout Christendom, namely, *their* superior skill in manipulating the process of manufacture and the danger that ignorant parties would injure someone by attempting to compete with them if their processes were given freely to the world. The second reason, however, is one of real importance, and should have caused Dr. Koch to adhere to his own alleged inclination not to announce the remedy at all, until his processes for its production were sufficiently complete for reliable results. The present status of chemico-bacteriological investigations show that there are various active or poisonous ptomaines and albumose in bacteriological cultures, morbid products, and in normal secretions, the isolation and preservation of which can generally be accomplished only by complicated and delicate processes. And if Dr. Koch's remedy belongs to this class of substances, it would not be strange if its author should find himself unable to perfect any process by which it can be produced in sufficient quantity and sufficiently uniform quality to be entrusted on the market as a remedial agent.

Investigations have thus far indicated but four methods of treating directly diseases produced by pathogenic germs.

The first is by such remedies as are capable of destroying the germ by direct contact; the second, such as if introduced into the living system prior to any active influence of the specific germs, are capable of exhausting its susceptibility to them, and thereby preventing the disease, as in the methods of Jenner and Pasteur; third, by such as when introduced into the system during the progress of the disease so actively attacks and destroys the living plasma or tissue material on which the propagation of the germs depend, that their progress is arrested with a rapid subsidence of the morbid processes and exfoliation or excretion of the necrosed material; and the fourth, by simply accumulation of an excess of the ptomaine or product of the germ itself as illustrated in vinous fermentation when the alcohol accumulates beyond a certain ratio and stops the process although there may be present plenty of fermentable material in the liquid. The remedy proposed by Dr. Koch evidently belongs to the third class, creating prompt general irritation or febrile action followed by decided necrosis or dissolution of the tissue affected by the bacilli, thereby diminishing their food and carrying away large numbers of them with the débris, but not directly destroying the vitality of the germs. It is apparent that the action of such a remedy might be both safe and efficient in the treatment of external varieties of tubercular disease, as lupus, etc., but it is equally apparent that in cases of extensive tubercular development in important internal organs as the lungs, brain, and abdominal viscera, very severe or even speedy fatal results might follow the necrosis of so much affected tissue with no ready mode of exit or exfoliation. These inferences from the *modus operandi* of the remedy, have been verified by direct clinical experience as set forth by its author, who properly enjoins the greatest caution in its use, especially in the advanced stages of pulmonary and cerebral tuberculosis. Consequently it is better that the profession generally should wait patiently until the processes of manufacture have been made reliable, and the results of clinical work by competent parties have had time to develop their real value. In the meantime, let every general practitioner endeavor to acquire the utmost skill in making an early diagnosis of tubercular diseases, at which time a judicious use of such hygiene, climatic, and remedial means as are clearly known, will arrest the progress of a large proportion of the cases; and he will be fully prepared to make the most judicious and efficient use of Dr. Koch's remedy whenever it shall become available; for such is the nature of pulmonary tuberculosis, that it is only in the earlier stages of its development and progress that any really curative treatment can be expected to succeed in effecting a permanently favorable result.

In conclusion, I will mention two popular errors, prominent in both medical and general literature, that do injustice to the character of the

profession. The first is, the very common assertion that all great discoveries in the science and art of medicine have met with unreasonable opposition and prejudice at the time, and the discoverers persecuted and sometimes ruined in their practice and professional standing. In my reading of medical history I have failed entirely to find adequate proof of these assertions. Perhaps the greatest discoveries in medicine during the three last centuries, have been the discovery of the circulation of the blood, by Wm. Harvey; the discoveries in the physiology of the nervous system, by Sir Charles Bell and his contemporaries; the discovery of the cow-pox, with the protective value of vaccination, by Edward Jenner; the discovery of anæsthesia and its applications in surgery, medicine and obstetrics, by Wells, Morton, Jackson and Simpson; and the applications of the microscope to studies in etiology, histology and pathology in our own time.

Wm. Harvey made his principal discovery concerning the circulation of the blood in 1619, but used eight years more in accumulating proofs of its correctness, and then, 1628, published a full account of it to the world; and instead of persecutions, his report rapidly gained the approval of the learned both in and out of the profession; he was accorded official positions in hospital and college, and only four years later he was made physician in ordinary to Charles I, with whose fortunes he became identified. The King was soon after defeated by the parliamentary forces, and deposed, which caused Harvey to be displaced from his hospital position, but left him still in the college, and with a rapidly increasing reputation. Less than twenty years after he had the gratification of seeing a statue erected in College Hall to his honor, with his important discoveries indelibly inscribed thereon.

Edward Jenner discovered the cow-pox as early as 1770, but spent the next twenty years in patiently studying its relation to sores on the hands of milk-maids and their exemption from small-pox, apparently counseling with no one but his friend John Hunter, by whom he was encouraged. In 1796 he ventured to vaccinate his own son; and in 1798 published a full report of all his investigations. Before the end of the same year his views were practically tested by Mr. Cline, and received the cordial public endorsement of seventy-three of the leading physicians of London. Within two years his report had been translated into nearly every language in Europe, and his views approved and practically adopted by the profession not only in Europe, but also in the Colonies of America. Within the short space of five years he was receiving testimonials in abundance from most of the crowned heads and scientific bodies then in existence. That he was denounced in intemperate language by here and there a medical or clerical crank, is true. And the same is just as true even at this day, as the sayings and doings of existing anti-vaccination societies prove. But no one would now think of quoting the doings of these societies as evidence that the regular medical profession is either opposed to vaccination or indifferent to the reputation of one of the greatest benefactors of his race.

Indeed, so far from receiving the announcement of new discoveries with prejudice and opposition, by the medical profession, it would be extremely difficult to find a single important new fact, principle, remedy, or mode of practice, fairly published to the world during these last three centuries, that has not been respectfully received, promptly acted upon, and in less than ten years assigned to its proper place with due credit to its author. Instead of delay and prejudice, the principal evils have resulted, as I have previously said, from immature announcements and too much haste in their practical appropriation.

The second popular error consists in presenting the *extravagancies*, both in doctrines and practice, of each medical era, as evidence of the character of the medical men and practice of that time. Every age or generation has its extremists who become extravagant in the practical application of whatever rules or remedies they adopt; and their extravagancies are sure to be recorded on the pages of the current literature, and to be quoted by all subsequent generations as characteristic of that time; while the great mass of active practitioners never copy or follow such excesses. Thus, during the first half of the present century, for every excessive venesectionist like Bouillaud, there were ninety and nine intelligent practitioners who never practiced venesection except in the first stage of acute diseases, and then rarely more than once. And yet, I have not listened to a discussion concerning the practice of that period during the last quarter of a century, that Bouillaud and his few imitators were not quoted as *the* representative men of the time. The same rule will be found true in regard to the extremists and the conservative masses of the profession in every subsequent era.

The only remedy for these popular and unjust errors is a frequent recurrence to the standard authors of the past generations, or in other words, an honest and thorough study of the history of medicine as a necessary branch of medical education.

THE MEDICAL CLUB OF LOUISVILLE.—At a recent meeting of the leading physicians of Louisville, Ky., it was decided to construct a building, in which meetings of the dlub are to be held, and in which a medical library is to be located. In its construction every possible convenience will be assured. It is anticipated that this movement will command the generous support of the entire medical profession of that city.

ECTOPIC PREGNANCY, WITH REPORT OF TWO CASES.

Read before the Gynecological Society of Chicago, September 26, 1890.

BY HENRY BANGA, M.D.,
OF CHICAGO.

On June 23, 1890, a lady called at my office complaining of bloatedness, backache, and constipation. She gave her age as 27, was of American birth, had enjoyed perfect health up to her marriage four years ago; pregnant once three years ago, labor at full term, normal. Right after she got up from confinement she had ulceration of the womb, for which she was treated over a year in Milwaukee. It is an exacerbation of this womb trouble (she thinks) that now compels her to consult a physician. Upon examination I found the cervix neither lacerated nor ulcerated. In the region of the right ovary there was a painful swelling; a thorough examination, however, was impossible, on account of the tenseness of the abdominal walls. I told the patient that part of her complaint was no doubt due to constipation, and that I would first try to relieve this and pay more attention to the womb later; I prescribed accordingly. About a week later, on the 30th of June, she again called at the office on account of constipation and intense bearing-down pains. I again examined and found the uterus decidedly larger than normal, the cervix peculiarly soft and doughy; the swelling on the right side of the womb seemed also somewhat easier to be felt. I told the patient I thought she was pregnant, and the bearing-down pains might indicate a miscarriage. She repudiated the idea, as she noticed no subjective symptoms of pregnancy, and as she had always been regular with her periods. She had menstruated last on the 7th of June, and expected surely to menstruate again on the 7th of July.

On July 3d I was called to the patient's house. She suffered excruciating pains, beginning in the lower part of the abdomen and radiating down the thighs; the pains were steady and there were on intermittent, labor-like pains. Enemata opened the bowels, but did not remove the pains, which were only controlled by morphia. There was no nausea, no fever; appetite wonderfully good. In this way she passed a miserable time up to the 7th of July, the date of the next expected menstrual period. For the first time in three years the menstrual flow failed to appear. On the 12th, however, there was a show, and on the 13th she flowed quite freely. Meanwhile I had made up my mind that she was undoubtedly pregnant; and in order to satisfy myself as to what had become of the swelling on the right side, I examined on the 14th. There was no doubt that it had decidedly increased and had pushed the uterus over to the left and somewhat forward. It was exceedingly painful. To all appearances I had to deal with a case of extra-uterine pregnancy. I thus informed the husband, and we decided to call Dr. Jaggard in consultation.

On the 18th we examined the patient under chloroform, and found the uterus enlarged, especially so in its antero-posterior diameter, pushed forward, and somewhat to the left. The cervix had the soft, doughy touch characteristic of pregnancy. To the right of the uterus, in a somewhat downward and backward direction, an elastic tumor of the size of a child's fist was felt. Between the uterus and tumor there was room enough to put in a finger. Dr. Jaggard confirmed my diagnosis and also concurred with me in recommending immediate operation. This I did at the Michael Reese Hospital, Dr. Jaggard being present, on the 25th of July.

After opening the abdomen the bowels appeared slightly stained with bloody serum. Pushing these back, the whole situation could be taken in at a glance. Having introduced a colpeurynter into the rectum (as I am in the habit of doing, in order to lift up small tumors situated deep down in the pelvis), I at once reached the tumor. There was, to the left, the uterus, twice its normal size and very turgescent. The left tube, very much hypertrophied, as thick as the index, exhibited large veins. The right tube was still larger; its middle part especially showed an immense hypertrophy of its muscular elements, which spread like a fan over a tumor. The latter was of the size of a child's fist; it was glued by soft attachments to the uterus, the rectum, small intestines, cæcum, and right side of pelvis. These adhesions were so loose that they easily broke down under the finger. Very little hæmorrhage followed. After thus freeing the bulk of the tumor a pedicle was easily formed. I first ligated the uterine end of the tube, then I secured, by three linked ligatures, the fimbriated end of the tube and part of the broad ligament, including also the ovary. After removing the tumor there was an annoying oozing from a separated adhesion to the rectum, so much so that I decided to use a tobacco-bag tampon with iodoform gauze, after Mikulicz. The patient rallied very readily from the operation. There was considerable bloody discharge through the tampon during the first two days. The tampon was removed on the sixth day. For a number of days the temperature rose to 101° in the evening, which elevation was due to the iodoform as was clearly demonstrated by the prompt return of normal temperature as soon as we began using oxide of zinc and later on balsam of Peru. There is still (on October 26) a small fistula left, at the bottom of which I think a ligature keeps up a little discharge;[1] otherwise the patient is well. She began menstuating, the first time after the operation, on September 18th.

Examination of the specimen showed that it

[1] November 11th, ligature extracted through fistula.

was a case of tubal pregnancy. The ovisac proper was situated in the middle of the tube, while the upper wall of the tube—*i.e.*, the part next to the anterior abdominal wall—showed immense hypertrophy of its muscular fibres (they were as large bundles of a strong biceps). The opposite side of the tube was thinned out so much that it seemed as though the ovum was ready to break through, out of the tube, into the cul-de-sac of Douglas. The amnion was intact; it contained about an ounce of fluid, and the fetus well differentiated and apparently about five weeks old. The ovary, which was removed together with the tubes, contained a cyst of the size of a small apple, being filled with a chocolate-colored, thin fluid.

Shortly after the preceding case had left the hospital another was brought in, of which the house physician, Dr. M. Goodkind, has furnished me with the following history: Patient æt. 40, menstruated at 14; menstruation every four weeks up to five years ago, when the flow became irregular, sometimes occurring twice a month; generally lasts seven days, without pain and of fair quantity. Patient menstruated last three months ago (May 20th). Married seventeen years; three confinements, all full term, normal labors; eldest child 13 years old, youngest 5. Six weeks ago (July 16th), while washing she experienced sudden and excruciating pains in neighborhood of genitals, causing unconsciousness which persisted for an hour. When she emerged from this condition she described sensations of vertigo, tinnitus aurium, pain, dyspnea, and utter prostration, causing such intense distress that she beeame incapable of any exertion and took to bed. Accompanying these symptoms she had alternating chills and fever, anorexia, nausea, and vomiting. A week after she began to menstruate slightly, and has done so to date. These various symptoms caused a rapid deterioration in health, and on August 27th she entered M. R. Hospital.

Status presens: Patient of strong build but extremely anæmic; has a haggard and careworn expression. She suffers with intense bearing-down pains. Abdomen presents a symmetrical enlargement extending from the symphysis to one inch below the umbilicus, of fairly hard, elastic consistence. No fetal sounds.

By bimanual exploration we found the cervix pushed up behind the symphysis by a round-shaped tumor resembling a small head descending down upon the floor of the pelvis. It was impossible to properly locate the fundus uteri, its outlines being lost in the tumor, which extended from the posterior cul-de-sac along the region of the left broad ligament to within an inch below the umbilicus. It seemed to fluctuate, and, in fact, to present all the symptoms of a hæmatocele. I inserted an aspirator needle, but did not get any fluid. The following days the patient had a little fever, the temperature ranging in the evening between 100° and 102°; the pains were controlled by morphia, but the tumor seemed to rather increase, causing retention of the urine, necessitating frequent use of the catheter. I deemed it necessary to do something radical to relieve the patient, and so I decided upon laparotomy. Our junior gynecologist, Dr. Frankenthal, agreed with me in the diagnosis—hæmatocele, probably caused by the bursting of an ectopic ovisac. September 4th was set for the operation.

After opening the abdomen the omentum and bowels appeared tinged with a peculiar yellow-brown color, which revealed at once the bloody nature of the tumor. The tumor lay hidden under the small intestines, which were easily loosened by the finger and pushed back with a sponge, so that the apex of the tumor was brought to view. After sponge-packing all around it, in order to protect the abdominal cavity against an overflow of possibly poisonous liquid, I first tried to aspirate; but, failing to get any fluid, I cut into it with a knife, making an incision wide enough to admit a half hand. It contained black, semi-coagulated blood, which I scooped out with the hand. Thus far I thought I had to deal with a simple hæmatocele, and that the uterus lay pushed over to the left side. While manipulating to get the last coagula out I loosened what I considered to be the womb; it proved to be a hard, solid coagulum, which was hanging attached to a few loose shreds from the left horn of the uterus. The uterus proper I found in the median line and of normal size. After thoroughly cleansing the abdomen and the sac, I stitched the latter to the peritoneum and packed it with iodoform gauze. The patient rallied nicely from the operation. On the second day, however, the temperature went up to 103°, the abdomen became tympanitic, pulse weak, 130. Gases had failed to pass so far, in spite of laxatives, rectal tube, and turpentine enemata. We really thought the patient in great danger of beginning peritonitis, and in order to give her a chance we took her at 9 o'clock in the evening to the operating room, in order to relieve a possible retention of the wound secretions. While she was on the table, and before I had done any mischief to the wound, the first flatus passed *coram publico*. From that time on she began to feel better. She is still in our ward and has no fever; the wound discharges very little, and is becoming smaller from day to day.

In this case tubal pregnancy had occurred, the ovisac burst, first causing hæmato-salpinx, then hæmatoma of the broad ligament, finally tearing and disintegrating the whole tube, the remnants of which were hanging down in shreds from the left cornu uteri. Later on there was renewed hæmorrhage into the pouch of Douglas, causing hæmatocele. The sac, which I stitched to the abdominal incision, was organized blood, not

peritoneum. The original ovisac, represented by the hard coagulum covered with villi, lay inside of the hæmatocele.

I now wish to add a few general remarks:

1. *Diagnosis of Ectopic Pregnancy.*—It must be easy to make a correct diagnosis after the fourth month and before rupture of the sac, because we feel the living fœtus or hear the heart sounds. Before the fourth month there might sometimes be a doubt left, especially if the physician sees the patient perhaps only once, or if he be unable to get an intelligent history. Besides the well-known and generally accepted signs of pregnancy (subjective and objective ones), I would derive the most valuable help, in making a diagnosis, from a close history. There will always be some *irregularity* in the menstrual flow—either cessation or too early recurrence of the periods—while formerly the menstruation has been regular. This irregularity resembles very closely the flow in a case of abortion. Another valuable symptom will be intense, excruciating bearing-down pains, mostly one-sided. These are not labor-like pains, but are more steady. They are no doubt caused by distention of the tube, due to the rapid growth of the tumor. If we add to this the objective symptoms—the enlargement of the uterus, that characteristic doughy touch of the cervix, the presence of a gradually increasing tumor somewhere in the region of the broad ligament—then I think there should be sufficient reason to warrant the diagnosis of ectopic pregnancy. My first patient illustrates this symptomatology most conclusively. She is a woman who has always menstruated regularly to the day. Fourteen days after her last menstruation she begins to experience intense bearing-down pains, starting in the right hypogastric region; then, for the first time in three years, she goes over her time six days; then a free flow sets in for ten days, shreds of decidua pass. With all that there is no fever and no other cause to explain the pain. By digital exploration we find an enlarged uterus giving that characteristic doughy feel of pregnancy, together with a steadily increasing tumor situated near the womb in the region of the broad ligament. There was, however, one classical symptom of pregnancy wanting, namely, the patient herself had not the slightest idea of being a gravida.

Now, how about the diagnosis of rupture of the ovisac? Those cases constitute two different classes, namely: (*a*) Rupture causes acute internal hæmorrhage. Now, since there is hardly any other trouble but ectopic pregnancy causing internal hæmorrhage, we may diagnose it at once if a patient shows the well-known symptoms of acute internal hæmorrhage. (*b*) Rupture causes peritonitis, sepsis. If a patient had not been under observation before the accident, it might often be impossible to differentiate a ruptured ovisac from a ruptured pyo-salpinx, ovarian cyst, or the like. About hæmatocele see further on.

2. *Anatomy.*—You know that Lawson Tait claims that the different varieties of ectopic pregnancy described in the text books are mere theoretical classifications, and that all cases are originally tubal, becoming ovarian, interstitial, or abdominal only after rupture of the tube and migration of the ovum to a new resting place. The simplicity of this theory recommends it. All the recently published cases were tubal pregnancies, as were the two cases related this evening. The first case also clearly demonstrates by the thinning out of the tube the possibility of an ovum slipping out of such an opening.

3. *Frequency.*—Late publications go to show that ectopic pregnancy occurs much more frequently than we have generally thought, a great number of cases of so called *hæmatocele retro-uterina* and hæmatoma of the broad ligament being nothing but cases of ruptured ectopic pregnancy. Martin, Olshausen (of Berlin) have described many such cases. Sure enough, they never found the fœtus, but were able in every instance to demonstrate the true nature of the disorder by the presence of decidua cells. Orthmann (who published Martin's cases) says that if in a hæmatocele we find an organized, well defined coagulum, we may feel sure that this coagulum was originally an ovisac. Upon its microscopical examination we will find villi or decidua cells. Our second case wonderfully corroborates this statement. *In situ* yet of the torn and bursted left tube, and surrounded by the semi-coagulated blood accumulated in the hæmatocele sac, we found a coagulum of the size of an apple, being covered with villi and enclosing the shrunken remnants of an otherwise well-differentiated fœtus.

4. *Predisposition to Ectopic Pregnancy.*—It is worth while to repeat here that the first patient had been ailing for years (after her first confinement) with pains in the right ovarian region, and that an ovarian cyst of the size of a small apple, containing thin, chocolate-colored fluid, was removed together with the ovisac, right ovary and tube.

5. *Treatment.*—There is hardly any possible difference of opinion about what to do if a physician is called to treat a patient showing the symptoms of a bursted ectopic ovisac. We have, of course, to perform laparatomy at once—in the one case to stop an otherwise fatal hæmorrhage; in the other case to remove decomposed matter which, if left in the abdominal cavity, will undoubtedly set up fatal peritonitis. (See also the remarks about hæmatocele.) What shall we do with a case where the sac is still intact? Let us first ask what will become of the patient if left to her fate. The sac might burst at any time, thus giving the patient a chance to die either from hæmorrhage or from sepsis; or if she should

escape both, and the fœtus undergo mummification (lithopedion), she might, after years of suffering, see the fœtus make its way out of the abdomen by perforating bladder, vagina, and rectum. Such being the case, I think the best way to deal with any case of extra-uterine pregnancy *is to extirpate the ovisac as soon as the diagnosis is made*. For, even if we succeed in killing the fœtus by electricity, aspiration, or injection of morphine, we are by no means sure that no sepsis or hæmorrhage will follow, or that, years after, a lithopedion will not cause trouble necessitating an operation.

In an early month the operation will amount to nothing more but a laparotomy for a small ovarian tumor or salpingitis.

Thomas has warmly advocated the use of electricity, not only with a view to killing the fœtus and waiting for its resorption, but also with a view to arresting placental circulation, thereby minimizing the danger from hæmorrhage in a subsequent laparotomy. This would seem a very good plan if the action of electricity were sure; but since it is not, it seems more rational to operate at once and not allow the placental circulation to increase by a delay due to futile efforts to arrest it. In my first case Dr. Jaggard and I discussed the propriety of a trial with electricity, but we decided to gain time over an increase of the placental circulation by immediate operation, and we really had no difficulty in controlling hæmorrhage.

However, as gestation progresses the danger from hæmorrhage increases. There being no contractile tissue to stop the gush of blood issuing from the placental insertion, it is of the greatest importance not to disturb the placenta. In such a more advanced stage of ectopic gestation where rupture occurs less frequently, I would try Thomas' plan with electricity as the first preparatory step to a later laparotomy. In case pregnancy, for some reason or another, has been allowed to go on to near full term, the child has also some claim for consideration. Here, in order to save a viable child, we might put off laparotomy until labor begins, being ready, however, to operate at any time if symptoms of rupture of the sac should demand it. The safest way to treat with the placenta in such a case seems to be not to attempt to detach it, but stitch the sac to the abdominal wound, pack with iodoform gauze, and wait for spontaneous loosening of the after-birth.

In case of hæmatocele the proper treatment would be to first wait for natural resorption of the bloody effusion; second, aspiration; third, opening through the pouch of Douglas, if the tumor does not reach high enough to allow it to be sewed to the abdominal walls; fourth, laparotomy, if the tumor touches the anterior wall of the abdomen. Laparotomy seems the most rational procedure, because it allows us to properly locate the extent and surrounding parts of the hæmatocele. Whenever incision is resorted to, the opening should be made wide enough to get all the coagula out. In the last case I doubt whether it would have been possible to get the large coagulum out through the vaginal opening.

MEDICAL PROGRESS.

Therapeutics and Pharmacology.

A NEW DISINFECTANT.—The list of disinfectants that has grown so rapidly of late, has received a further addition under the name disinfectol (*désinfectol*). According to LOWENSTEIN (*Revue Hebdomadaire de Thérapeutique*) it consists of a combination of iodine phenol and different hydrocarbons. It is a liquid of considerable consistence which in odor and properties approaches closely to creoline, of alkaline reaction and miscible with water in all proportions, forming a clear or grey emulsion according to the proportions employed. M. Beslin in testing the antiseptic value upon fæces found that in the proportion of .5 it disinfected an equal volume of fecal matter in eighteen hours. In the strength of 10 per cent. an equal volume of fæces were completely sterile at the end of fifteen minutes. The bacillus typhoidal was destroyed by a two per cent. solution. The five per cent. solution was equal in disinfecting power to one of 12.5 of creoline, hydro-chloric acid 33, carbolic acid 5, sublimate 2.

RAPID EFFECTS OF KOCH'S REMEDY IN LARYNGEAL PHTHISIS.—PROF. OPPENHEIMER, of Heidelberg, reports the following case (*Deutsche Med. Wochenschr.*, December 4th, 1890):—The patient was a woman, aged 28, who had been ill for two years. She had infiltration of the right upper lobe, dulness at the left apex, bronchial breathing, moist *râles*, and bacilli in the sputum. Since September of the present year she had continual fever, with evening exacerbations and night sweats. She complained of irritation in the throat, which brought on paroxysms of coughing from six to eight times a day, and made her vomit most of her food. This, and the hoarseness of her voice, made Professor Oppenheimer suspect that the layrnx was implicated in the disease, but laryngoscopic examination was impossible, owing to the irritability of the throat, which even the free use of cocaine could not subdue. She was very weak when Koch's fluid (1 milligram) was injected for the first time on November 22nd. Reaction was slight; the coughing and vomiting continued during the day as before. On November 23d she was again injected (1 milligram). Nine hours afterwards the temperature rose from 37.6° to 39° C. During the following night there

was much sickness, with headache, and coughing; expectoration was diminished. On the 24th 1 milligram was again injected. In about six hours the temperature again rose to 39° C. and the patient complained of giddiness, shortness of breath, with a feeling of contraction in the throat; there was no difficulty in swallowing, the cough was less, but the voice was somewhat hoarser than before. With great difficulty a laryngoscopic examination was made, and it was seen that on the fore part of the right vocal cord there was a bluish red excrescence of the size of a millet seed, the rest of the cord being greyish red in color, but otherwise normal. The ventricular bands and arytenoid cartilages were normal. On the following day the excrescence had disappeared, and only redness and slight swelling of the vocal cord remained. From that day the paroxysms of coughing and vomiting entirely ceased, and up to the date of the report (December 1st) never recurred. The only thing the patient complains of is slight pain in the region of the larnyx, which comes on from eight to ten hours after each injection, and lasts from three to four hours. No improvement has, however, taken place up to the present in the lung symptoms.—*Brit. Med. Jour.*

PYOKTANIN.—PROF. STILLING has given, in three recent numbers of *Merck's Bulletin*, a valuable report upon pyoktanin. He summarizes its qualities in the following terms: 1. Pyoktanin is an antiseptic surpassing all remedies of this kind heretofore known in regard to both development-arresting and germ-destroying effect. The two strongest antiseptics employed in medical practice are sublimate and iodoform. The bacteriological researches have shown blue pyoktanin to be about three times as strongly antiseptic towards anthrax bacilli as sublimate is, and to be quite as efficacious as sublimate towards the staphylococcus aureus; while the inefficacy of iodoform towards pus cocci is a generally acknowledged fact. 2. Pyoktanin is an absolutely non-toxic substance. Herein it possesses a most desirable advantage over all the other antiseptic remedies, whose toxic effects are known to hold, generally, a pretty direct ratio to their anti-bacterial action. 3. In consequence of this non-toxicity of pyoktanin it is a matter of indifference in very many cases whether somewhat weaker or stronger solutions, or even the pure drug, be employed. (This principle is good pre-eminently in the treatment of wounds and ulcers; but of course it cannot apply to ophthalmology). 4. Pyoktanin does not coagulate albumen—a negative quality of high value physiologically, which pertains to not a single one of the antiseptics heretofore known. 5. Pyoktanin possesses an extremely high degree of diffusibility; it permeates the interior of the eye like atropine, and acts similarly in other tissues. As far as surgery is concerned, Professor Stilling believes that his researches have demonstrated that suppuration can be cut short by bringing pyoktanin into intimate contact with the suppurating tissues. After giving details of his experience of this substance in many branches of ophthalmological work, he concludes by remarking that even here, though somewhat less so than for general medicine and surgery, the entire matter is still *in statu nascendi.—Lancet.*

Medicine.

ARSENIC AND PEMPHIGUS.—MR. JONATHAN HUTCHINSON'S address in the Dermatological Section of the British Medical Association referred to the opportunities offered in connection with skin diseases for the study of general therapeutics and for observations on the action of drugs. As reported in the *Lancet* he offered a striking illustration of this proposition in the behavior of arsenic, which has long stood in the forefront among those remedial agents regarding which have been collected many important and even astonishing facts. And he adds: "There is no more wonder-producing fact in the whole range of therapeutics than the ease and rapidity with which arsenic contracts and cures common pemphigus. There may occasionally be exceptions, but, as a rule, not another bulla appears after that remedy has been commenced. We have, indeed, ceased to see any cases of chronic pemphigus ever since this fact has been made known." There, however, he complains, the knowledge ends, for no one has yet been able to discover how the drug acts, and we are still ignorant also of the real nature of the malady that so generally succumbs before that drug. It does not always cure the malady but it always changes it for the better. He who would completely unravel the mystery of how the bullous eruption comes to be healed, and the scaly one changed, how the skin may be made to clear up in one case or to become muddy and brown in another, how peripheral neuritis may be produced to end finally, unless prevented, in some severe form of paralysis and death, and how in rare instances the nutrition of the skin may be so influenced that keratosis and even cancer may be the result, will certainly find that he has his work cut out for many years. Only the foundation of the subject has as yet been laid.

TREATMENT OF DIABETIC COMA.—SCHMITZ (*Berliner klin. Wochenschr.*) recognizes two distinct forms of diabetic coma. In one there is heart failure and in the other a toxæmia. In the first class of cases we have a diabetic who is often fat but whose muscles are soft and flabby, the gait is insecure, and breathlessness is produced by slight exertion. In these cases the heart, like other muscular structures, is poisoned by the excess of sugar in the blood. After a time distinct

heart failure appears, manifested by a quick, feeble pulse, obscure or absent first sound, with increased area of dulness at the base. The heart's action finally becomes weaker, somnolence comes on and the heart may strike work suddenly or gradually. The treatment of these cases should be an avoidance of all undue over-stimulation and over-taxing the heart. A nutritious and easily digested dietary; of course, the general diabetic condition must not be overlooked. In acute cases, where cardiac failure is imminent, the patient should be kept in a recumbent position and heart tonics administered. One of the best is black coffee together with musk and camphor hypodermically if there is nausea. The greatest danger lies in allowing the patient to get up too soon. He should be kept on his back until the first sound of the heart becomes clear and distinct.

The second form of diabetic coma he regards as an acute auto-infection named, but not correctly, acetomæmia. The symptoms principally relate to the digestive tube, lack of appetite, eructations of foul gases, constipation usually, but sometimes diarrhœa, together with heaviness and drowsiness. This state may last for some days, but eventually the patient becomes more and more stupid. The temperature rises and the pulse increases in frequency, colicy pains are present, frequently accompanied by vomiting of dark or greenish colored fluid. The pupils, as a rule, are contracted and react but feebly to light. Towards the end violent clonic convulsions appear, deep coma supervenes to be followed by death.

The colic, high temperature and *clear heart sounds* serve to distinguish this last from the first variety. The writer thinks that this poison is absorbed from the intestinal canal, and recommends that in all of these cases free purging with castor oil should be resorted to. It makes no difference whether diarrhœa is present or not, if the oil is given a number of dark foul stools result, which are quickly followed by an amelioration in all of the symptoms. The author gives an account of eight cases of equal severity, in four of which oil was given and in four not;—the former all recovered, while the latter all died.

Surgery.

BRAIN SURGERY.—WALKER (*Med. and Surg. Reporter*, Vol. lxiii, No. 8, p. 213) reports eleven cases of brain surgery.

There were two cases of compound fracture of the skull in which fragments of bone were driven through the dura mater into the brain. Trephining was performed and the fragments of bone were removed, with recovery in both cases. There were three cases of fracture of the base of the skull accompanied by intracranial hæmorrhage. The indications for trephining were the pressure symptoms. Two of these cases recovered. There was one case of intracranial hæmorrhage without fracture. Trephining was performed six days after the injury, and 5 ozs. of coagulated blood were removed from between the skull and dura mater. The patient recovered.

There were two cases which received no benefit from operation. One was a case of supposed ancient intracranial hæmorrhage and the other a case of epilepsy.

The lateral ventricles were tapped for effusion in one case. The method of operating was that proposed by Keen. The trephine was placed 1¼ inch behind the meatus and 1½ inches above Reid's base line; the puncture being made toward a point 2½ inches directly above the opposite meatus. A considerable quantity of serous fluid was removed in this way; the patient, however, died in seven hours. The reporter is of the opinion that death was due to compression from hæmorrhage, which was caused by the operation. No autopsy was made. There was one successful case of trephining for epilepsy, which followed traumatism four years previous to operation.

Finally, there was a fatal case of operation for brain tumor. The tumor was not discovered at the operation. The autopsy showed it to be a cyst which had its origin at the apex of the petrous portion of the temporal bone.—*Amer. Jour. Med. Sciences.*

Obstetrics and Diseases of Women.

KINKEAD ON RUPTURED PERINÆUM.—The author records three cases of ruptured perinæum which occurred in his practice, in spite of every caution he took to prevent the mishap; and he strongly urges that these cases should be attended to at once, and not allowed to heal by chance. The author states that the neglect to repair arises from two causes: 1. The notion that if the laceration is not extensive, union may take place by means of rest, position, and cleanliness; and if extensive, so that the rectum is involved, it is useless to suture the wound, as union is not likely to take place. 2. The idea that laceration of the perinæum is an indication of incompetence or neglect, and likely to prejudice the patient against the practitioner. Dr. Kinkead describes three cases, in which he shows that the rupture was extensive in each case, in spite of great caution, and perfect union occurred after suturing the wound with deep sutures, though in one case the rent extended into the anus, and for an inch up the rectum. Whether it be that higher education and social progress produce larger fœtal heads, or render the perinæum more friable, the author is unable to say, but he states that he finds it more impossible to preserve the perinæum intact than he did when he began practice.—*London Medical Record.*

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SATURDAY, JANUARY 24, 1891.

NEW SOCIAL REMEDIES.

The physical and medical side of pauperism, criminality, and associate evils have received a great uplift in GEN. BOOTH'S work, "On Darkest England and the Way Out."

The purpose of this work is to bring out the fact, that one-tenth of the London population are paupers, criminals, lunatics and outcasts generally and are called the "submerged tenth"; also that all remedies and means to reach and correct this evil are failures unless especially addressed to the physical side. Another fact seldom realized, yet terribly true, is that pauperism and its associate disorders are indigenous, and when once they take root in a town or city, reproduce themselves through heredity, surroundings and conditions of life, with a persistence that defies all missions, churches and free charities. The so-called charities in most cases increase the very evils they are intended to relieve. This is illustrated in many of the dispensaries so generously supported by physicians, that are literally schools of pauperism.

GEN. BOOTH'S "way out," or remedy, is to draft out this terrible army of defectives, in workhouses established in the worst centers. These places are to furnish good rooms, food, clothing and mental change, in return for services of some kind. After residence and training here they are to be transferred to form colonies, with larger opportunities for more comfort and better living and a chance to make a surplus beyond food and clothing. From a longer residence here they are to be sent to foreign colonies, and helped to make home centers for themselves. These foreign colonies to be coöperative and care for those who are unable to be independent; thus these parasites of society are to be lifted out, trained and taught to work and give some return for food, and all the comforts of a better home. The first great lesson is to be independent, and to earn under the direction of others, the joys of better conditions of life and living. In this way a large majority of the defective paupers and criminals who are prevented from rising by surroundings and conditions of life, are lifted out of their breeding places, and placed in new mental and physical environments, and trained to appreciate this change, and be restrained from falling back again.

By this appeal to the physical side, the way to the higher controlling forces is reached, and the man who would have become a burden becomes a producer. The common methods are to break up pauper centers and scatter the inmates, who with unconscious certainty proceed to form other and more dangerous centers. This plan is to draw out such defects and give them a chance to rise to better conditions of life. GEN. BOOTH calls for a million dollars to begin this scheme, in London, a third of which is already subscribed. This indicates that the public mind responds quickly to methods that are rational and along the line of scientific research.

The new criminalogy and sociology of evolution sustains the practical character of this plan. This work is exciting most intense interest among all classes of laymen, but beyond this it has a medical aspect which has not been noticed yet. The London paupers, criminals and outcasts are growing up in all our large towns and cities, and are identically the same classes, only varying in degree. When these classes are studied scientifically they are found to follow certain lines of causation, and conditions of heredity and environment, that can be traced and predicted with absolute certainty. They are the products of heredity and physiological development and nondevelopment, that in certain conditions and surroundings of life will merge into the criminal pauper and defectives, and become the dangerous classes.

So far all the studies of these cases have been by theologians, lawyers and philanthropists, entirely from a theoretical standpoint, and of course

the remedies have been strangely empiric and largely failures. No clinical study of these cases in their haunts, or in reformatories or prisons has been made. Only a few fragmentary articles have appeared. One or two reform prisons have demonstrated the great changes that will follow physical training and culture, and the possibility of curing criminals and sending them back to society useful law abiding citizens. These irregular studies show that all these so-called dangerous classes are bred and cultivated from germs and germ soils, that they grow up and develop in conditions that can be recognized and prevented. The educated physician is the most competent of all persons to study and point out the true remedies. GEN. BOOTH'S plan recognizes this fact in the materialistic character of the means for relief.

This entire subject of the pauper and dangerous classes is along the line of sanitary science and preventive medicine. Here the physician rises above the lower level of drug dealing, and becomes a student and teacher of the laws and forces which control the evolution or dissolution of individual life. What GEN. BOOTH proposes to do in London may not be carried out practically, but it suggests possibilities that can be put in operation in every city in the country. It suggests new fields of medical research and medical activity, that will close free dispensaries and dangerous charities, and change the police courts and jails from training schools of crime to homes of growth and preparation for better life and living.

Medical men in every community must study these dangerous classes, and advise and direct the remedies for restoration and prevention. A practical knowledge in this direction will be liberally rewarded by the public, and raise the physician to the realm of leadership in a new field of work for humanity. Each new advance of scientific research reveals the possibility of escape from epidemics and widespread fatal diseases, and every new study of these dangerous classes reveals certainty of finding means of prevention and cure. Pauperism including criminality, and all the associate defects, are medical problems to be studied from the physical side, and treated by physical remedies, not drugs, but by the application of laws and forces that will help the victim back to health again.

Everywhere there are intimations of a great revolution in our knowledge and treatment of these cases. The losses and burdens they entail on every community bring the study of remedies and means of prevention into great prominence, and calls for the best talent of the profession in every section.

THE COMPOSITION OF KOCH'S LYMPH.

PROFESSOR KOCH has made a third report of his work under date of January 15. His reasons there given for withholding from the public to the present time the exact composition of the fluid used in the treatment of tuberculosis, should be satisfactory to the medical profession. The modest manner in which he now refers to his previous labors, and the methods employed by which he has reached his present conclusions, commands approval, and the unreserved manner in which he now gives to the public the results of his labors must surely disarm those who were disposed to criticise the withholding of his discovery from an exacting and impatient multitude.

"The remedy," says PROFESSOR KOCH, "which is used in the new treatment, consists of a glycerine extract derived from the pure cultivation of tubercle bacilli."

This extract contains not only the effective substance derived from the bacilli, but such other substances, consisting of salts, coloring material and extractive matters, as would be soluble in a fifty per cent. solution of glycerine. Their elimination is of no practical importance, since they exert no essential influence upon the human organism. Combined with other extractive material the effective matter is precipitated by alcohol, in which it is insoluble, and can be isolated from other substances in a comparatively pure and concentrated form and with increased potency.

Regarding the composition of the effective substance, as he terms it, PROFESSOR KOCH says that for the present only surmises can be entertained. He believes it to be derivative from albuminous bodies and having close affinity to them. That it does not belong to the group of tox-albumens, he argues from the fact of its tolerance of high temperature and of its behavior in the dialyser. So far as can be estimated, the percentage of the active principle in this solution is exceedingly small, being rated at a fraction of one per cent. It is evident that we here have to do with a remedy which, considering the effects which it

produces, is far more potent than any drug hitherto employed.

Various views are entertained as to the manner in which the substance produces its effects.

It is known that tubercular bacilli, when growing in living tissues, produce substances which affect unfavorably and in concentrate form produce necrosis of living tissue. In this necrotic tissue the bacillus fails to obtain its needed nourishment, ceases its development, and sometimes dies.

Thus the very environment of the bacillus is inimical to its development and multiplication. If now a substance be introduced that can develop the necrotic environment still further, and limit the possibilities of its growth, by so much the more will its limitation and destruction be assured.

It may be as yet impossible to explain the manner in which this remedy exerts its specific influence upon tuberculous tissue. Nor can we yet understand the remarkable rapidity with which its effects are produced. Nor does time yet suffice to determine as to the permanency of alleged favorable results. Instances are cited where the tubercular bacilli disappeared from the sputa of patients while under treatment, and at the end of three months had not reappeared, the patients in the meantime improving in health, the physical signs of phthisis having disappeared.

EDITORIAL NOTES.

DIPHTHERIA AT HALIFAX, N. S.—The *Maritime Medical News* for January comments editorially on the high mortality of diphtheria, during the last fifteen months, at Halifax. The exact amount of the death-roll cannot be stated, but the editorial writer estimates that as many as 250 deaths were due to the cause named, and the end is not yet. These deaths were mostly among children, causing an abnormally high infant mortality. And yet Halifax has very much in its favor as regards its geological and geodetic conditions, washed by the sea on every side, and furnished with a water-supply that is above suspicion. But the city is uncleanly within, as was shown by an inspection made last summer, under pressure of public opinion and against the opposition or inertia of a cumbersome health machine. This inspection revealed premises innumerable reeking with domestic filth, saturated and overflowing cesspits, uncleaned streets, uncollected garbage and an inadequate sewer system. The economic loss to the city has already been great, as the sensitive tide of summer travel has already begun to be diverted by the impression made by the bad bills of health shown by the city. The Board of Health is lacking in its proportion of medical men of alertness and modern training.

THE OVERWORKED PHYSICIAN'S LUNCHEON.—Dr. Allan McLean Hamilton contributes to the *Dietetic Gazette* some dietetic suggestions in nervous and mental diseases, one of which will interest all those busy practitioners who give themselves no time for a midday repast. His advice would be to lay in a goodly supply of fresh almonds, and to have some of them constantly within reach and to eat freely of them during the spare moments. He writes as follows:

> Acting upon a hint given by my friend, Dr. Lauder Brunton, I have directed some of my patients to eat freely of fresh almonds, which are rich in oil and exceedingly nutritious, containing as they do 54 per cent. of fixed oil. According to Pavy they contain 2.677 of nitrogen and 40 per cent. of carbon. It is a custom of Dr. Brunton and several other London physicians, when hurried and tired after their morning consulting hours, to make a luncheon simply of this kind. In cases of diabetes, when digestion is not too weak, it will be found that biscuits of almond flour are exceedingly nutritious and palatable and may take the place of gluten bread.

POETRY ABOUT A MILWAUKEE SURGEON.—A little versification now and then is relished by the sternest of medical men, especially if it be about Professor Senn. Dr. G. Dewey, a Missourian poet, has composed the following lines regarding specialism in medical practice:

> "The body has been parcelled out,
> For doctors' benefit, no doubt,
> Divided up so very nice
> That every one can get a slice.
> To one they gave the fingers, one the toes,
> Another gets the eyes and nose;
> A third, more greedy for his part,
> Has gobbled up the lungs and heart.
> For his untiring, ceaseless pen,
> They gave the pancreas to Senn."

MEDICAL PRACTICE IN MINNESOTA.—The results of seven years operation of the Medical Practice Acts in that State have been to reduce the proportion of physicians to 1 in 1,250 persons; whereas it formerly was 1 in 650. Some hundreds of pretenders have been forced to quit the State, and have gone into Michigan and other unpro-

tected States. The present examination act has been in force three years, and in that time only 205 candidates have presented themselves for examination, of these 77, or 36 per cent., were rejected.

EARTH-WORMS AND AFRICAN FEVERS.—The *Kew Bulletin* in an article on the work of the earth-worm in the coast-regions of Western Africa, says that there is an unmistakable comparative freedom from dangerous malarial fevers in the country called Yoruba land, and that many there believe that this freedom is due, in part at least, to the great activity of earth-worms in ventilating the soil and in bringing to the surface the earth in which the malarial germs live and breed. The quantity of soil thus brought to the surface yearly is enormous; but whether or not the diligence of the earth-worms of Yoruba is greater than in adjoining territory, that is smitten with the malarial fevers, is not stated. We are left to infer that it is.

KOCH'S NEW LABORATORY.—The government at Berlin has ordered the construction of a new institute for Dr. Koch. It is to include a sanitarium as well as scientific institution; in the former all required cases of infectious diseases will be cared for and treated under the direction of Koch, the human test-cases in conformation of his researches; in the latter the usual laboratory investigations in bacteriology and other preventive methods, both in old and new directions. Professor Koch will be the director of the institute, with two heads of departments under him and twenty or more practical assistants. An adjunct sanitarium, for the benefit of the poor of the city, has been promised by a private citizen, at a cost of $200,000. The sanitarium, to be constructed by the government, will have a capacity of 150 beds. Dr. Brieger has been named as the probable first director of this department.

GENEROUS GIFT TO A PENSION FUND FOR NURSES.—The family of the late Junius S. Morgan, formerly of Hartford, Conn., has presented the National Pension Fund for Nurses, England, with over $38,000 to supplement a collection made by the nurses among themselves, amounting to about $12,000, this being their spontaneous tribute to the memory of their departed benefactor. This fund will bear Mr. Morgan's name, as a part of the benevolent endowment for the benefit of nurses, which already amounts to $200,000. Mr. Morgan, during his lifetime, had taken a warm personal interest in the movement and had subscribed liberally, not less than $50,000, for its encouragement.

PROPOSED MEDICAL LEGISLATION IN MICHIGAN.—At the last annual meeting of the Michigan State Medical Society, a committee of nine of its representative men was appointed to formulate appropriate measures and to influence the profession in the State to secure from the incoming Legislature—"the enactment of just and wise measures, calculated to elevate the standard of medicine in Michigan, and to protect the people from the cruel and dishonorable practices of ignorant and unscrupulous pretenders."

At the meeting of that committee recently held, the conclusions reached were as follows:

1. That the objects to be sought in a medical law were three-fold: preliminary training, professional training, and the enforcement of these requirements.

2. The securing of these objects by a legal organization of the entire medical profession of the State under legislative authority—by means of a legally constituted council by whom those beginning the study of medicine shall be examined with reference to preliminary education, and by whom alone a license to practice medicine in the State shall be issued, and that no other diploma shall entitle the holder to practice in the State.

We confidently believe that if the men who have this matter in charge shall secure the legislation they desire that Michigan will stand in the foremost rank of States as regards the quality of its medical service.

THE KOCH TREATMENT IN THE POST-GRADUATE MEDICAL SCHOOL, CHICAGO.—During the past week the Koch lymph treatment was successfully instituted at the Post-Graduate Medical School of Chicago. This institute, through Dr. Robert H. Babcock, has also fitted a room with all the necessary appliances for the treatment advised by Dr. Shurly of Detroit. Several patients are under treatment by both methods and careful notes are taken of the progress in each instance with the idea of comparing the relative value of the two methods.

TOPICS OF THE WEEK.

THE REVIEWER IN 1831.

The following are a few samples of what reviewers had to say about books in 1831:

"So many plates, etchings, lithographs, and copper-plates bestrew our table that we scarcely know whither to turn to avoid them. Every day sees the birth of some production. If the public buy them all then happy are the authors." This might apply to 1891, as well as the following: "Within the last few years compilations, systems, manuals and guides of all descriptions for the use of students, young and old, have multiplied beyond enumeration. If mind is on the march it is encumbered, like our English armies, with a monstrous quantity of baggage and camp followers."

What would the reviewer have said if he had been spared to the *fin de siecle*. The quotations we have given only lament the quantity of books; the following extract might have been penned to-day: "To those who have made themselves intimate with the medical literature of the last thirty years, and have traced with care the progress of its advancement in some departments, and the cause of its decline in others, nothing can have appeared more amazing than the unphilosophical, unconnected trash which has been teeming in volumes of every size from the medical press of this country. A few observations most hurriedly made; a few new fancies most rudely arranged; or, if you will, a few facts carefully collected are laid down as the framework of a momentous publication, in which general systems are dissected and condemned, preceding authorities are swept into annihilation by broad and dogmatic assertions, and a new creed is proposed for adoption which contests not only its superiority over all that has gone before, but its perfect adaptation for all future ages, nations and constitutions." The extracts are from the *Medico-Chirurgical Review*, 1832, p. 30, and evidently the state of the profession fifty years ago, as regards the the production of books, was as bad as it is now.—*Provincial Med. Journal.*

DEAFNESS FOR HIGH NOTES.

Mr. Edwin Cowles, editor of the *Cleveland Leader*, who died last March, had a peculiar form of deafness. He never heard the sound of a bird's note, and until he grew to manhood he always thought the music of the bird was a poetical fiction. "You may fill the room with canary birds," he once said, "and they may all sing at once, and I would never hear a note, but I would hear the fluttering of their wings. I never heard the hissing sound in the human voice; consequently, not knowing of the existence of that sound, I grew up to manhood without ever making it in my speech. A portion of the consonants I never hear, yet I can hear all the vowels. About a quarter of the sounds in the human voice I never hear, and I have to watch the motion of the lips and be governed by the sense of the remarks in order to understand what is said to me. I have walked by the side of a policeman going home at night and seen him blow his whistle and I never could hear it, although it could be heard by others half a mile away. I never heard the upper notes of the piano, violin, or other musical instruments, although I would hear all the lower notes."—*Cleveland Med. Gaz.*

THE OWNERSHIP OF THE PRESCRIPTION.

This question has been settled by law in New York, Massachusetts, and a few other States. They all give the prescription to the druggist. Some time ago a judge of a court in Berlin, Germany, gave a similar decision. The text of the decision from the judge of the supreme court of one of our States is as follows: "The question before the court seems to be very simple, indeed. A patient applies to a physician and receives from him certain advice, for which he tenders a fee. The physician hands a piece of paper to the patient, purporting to be a written order for certain goods called drugs, which order is filled by a merchant or apothecary. The payment of the fee and the delivery of the goods or drugs, terminates the verbal contract, and the druggist keeps the prescription as an evidence that the contract has been fulfilled, as far as he is concerned. The druggist can, if he so please, on his own responsibility, renew the drugs, for he is but a merchant, and has a perfect right to sell drugs to any one and in any shape. He need not keep the prescription, nor is he bound to give a copy, but should error occur, he has no protection in case of suit."—*The Pharmaceutical Era.*

THE TEN COMMANDMENTS OF ABDOMINAL SURGERY.

1. The arrest of hæmorrhage. 2. The avoidance of mechanical irritation. 3. The guarding against infection. 4. The proper apposition of the edges of the wound. 5. The provision of necessary drainage. 6. To apply gentle pressure to prevent exudation. 7. To give perfect physiological rest. 8. To secure the best possible position of the parts to promote comfort and healing. 9. To provide for hygienic surroundings. 10. To attend to the patient's general health.—*Dr. Griffiths.*

A NEW SOCIAL DANGER.

Opponents of dancing have had a somewhat novel argument suggested to them. Some person whom we cannot but regard as over-cautious has discovered that even the drawing-room carpet is the home of dangerous microbes, and must not be disturbed, lest the infective swarm should arise and poison the atmosphere. With every allowance for the unknown components of dust, the objection is, in our opinion, certainly as whimsical as it is probably original. Such regular cleansing as a carpet undergoes ought to free it from any seriously morbific influence, the more so that a dancing room is less than any other exposed to such mischievous agency. Far more real is the disqualification from which this otherwise healthy form of amusement has always suffered in the opinion of medical men in consequence of its customary methods. The excessively late hours, the indigestible suppers, the needless glass of wine, the close

heated air, and the frequent after chill, though by no means essential to dancing, have done far more to injure its repute among reasonable people than any fancied bacillus or morbid spore is likely to do.—*Lancet.*

THE ADVANCE IN LIFE-VALUES.

Dr. B. W. Richardson, in his abridgment of "The Health of Nations," by the late Sir Edwin Chadwick, under the heading "Progressive Health," compares the mortality in the Elizabethan and Victorian eras:

According to John Graunt's reports, from the parish registers, the condition of the whole city of London in the time of Queen Elizabeth was very much that of a "slum." The death-rate was in fact that of a slum: it was more than 40 per 1,000; but now, under some advance toward unity and centralization, it is about 20 per 1,000, still including upward of one-third of preventable deaths. The death-rate then largely exceeded the birth-rate, while now the reverse is the case. The death-rate of the children under 5 years was then one-third, or 33 per 100. It is now 27 per 100, and grievously too heavy. The deaths from old age, or the age then called old, of 70, were 7 per cent.; they are now sadly too low, but even in the city proper they are 18 per cent. As to personal security, John Graunt boasted that not more than one in 2,000 was then murdered annually, which he ascribes to good local government. At the same rate now murders in the whole of the metropolis should amount to no less than 2,500 annually, whereas they actually amount to an average of no more than 12 for the whole 5,000,000—a population which approaches to that of the whole kingdom of England and Wales in the time of Elizabeth.

LISTER'S METHOD DISCARDED BY LISTER!

"Who could have foreseen the short existence of the world-renowned system of Lister, which has been for years the ideal of modern surgeons? Who could have dreamed that the idol would be one day broken by him who had placed it on a pedestal of bronze and polished brass?" Such are the questions with which the *Journal d'Hygiene* begins the announcement of the present status of Listerism, and goes on to remark: "It is, however, an historical fact. The dictum of Lister and his antiseptic doctrine have ceased to exist. In his remarkable communication to the Congress at Berlin, on the actual condition of the antiseptic treatment of wounds, the eminent English surgeon has given the following judgment:

"As regards the spray, I feel ashamed that I should have ever recommended it for the purpose of destroying the microbes of the air. If we watch the formation of the spray, and observe how its narrow initial cone expands as it advances, with fresh portions of air continually drawn into its vortex, we see that many of the microbes in it, having only just come under its influence, cannot possibly have been deprived of their vitality. Yet there was a time when I assumed that such was the case, and trusting the spray implicitly, as an atmosphere free from living organisms, omitted various precautions which I had before supposed to be essential."

Lawson Tait, of Birmingham, Bantock, of London, and Bergmann, of Berlin, in reviewing their vast experience, are not afraid to affirm that antiseptic treatment must now yield the place to the aseptic method!

Water boiled or sterilized, a brush and soap are the simple means which have enabled these eminent surgeons to perform a series of one hundred ovariotomies without a single death.—*Cincinnati Med. News.*

THE VALUE OF TIME.

A correspondent, writing from a large commercial city, informs us that he remembers seeing many years ago the following in some mercantile offices: "Call upon a business man at business time only, and on business. Transact your business and go about your business, in order to give him time to finish his business." Our correspondent feelingly asks whether a notice similar to the above, with the necessary modifications, might not be hung up in the consulting-room and surgery of every busy consultant or general practitioner. Much has been said as to the rapidity with which the out-patients of hospitals are disposed of. But this rapidity is perfectly compatible with correctness of diagnosis, prognosis, and prescribing by an experienced practitioner, and there is something to be said on the other side—the time wasted by patients in prolix descriptions and tedious repetitions. The quaint story of the lady who consulted Abernethy and, knowing his impatience of such verbosity, held out her wounded finger and answered in monosyllables, is well known, and the example might be followed with great advantage. The lady in question was rewarded by Abernethy's impromptu praise, that she was the most rational woman he had ever met in his life. Those patients who are most considerate for their doctor's time are certainly the most welcome.—*Lancet.*

THE TIME OF DAY FOR OPERATIONS.

There is considerable difference of opinion amongst surgeons, as to whether it is best to operate early in the morning or in the afternoon. Many prefer the morning. They say that the patient is saved the suspense of being kept waiting till the afternoon, and the surgeon has the better chance of a good supply of sunlight or of its equivalent in this country. Both these reasons have considerable force. Other surgeons maintain that early operating implies a sleepless previous night. The shades of evening, a greater promotor of sleep than blinds and screens, come on sooner when the operation is performed in the afternoon. This physical fact also implies greater chances of rest in another respect, for there is less fear of subsequent disturbance from noises inside or outside the house when the surgeon operates late. Long operations may seriously tax the surgeon's strength and nerve, and in this respect again the afternoon is better for operating than the morning. In private practice and wherever freedom from noise and plenty of warmth can be ensured, the morning is probably the best time, especially in summer. As far as light—a most important factor—is concerned, the time of day makes little difference at this time of the year in London, though the danger of a sudden darkening of the atmosphere is, perhaps, greatest in the afternoon.—*British Medical Journal.*

PRACTICAL NOTES.

CHRONIC CONSTIPATION.

At the meeting of the Berlin Medical Society, Herr Flatau introduced a new method of treating chronic constipation due to torpor of the colon. This consists in applying about three grams of boric acid. In those cases in which the lower edge of the rectum protrudes through the anus and when this remains visible after powerful contractions of the levator ani and sphincters, the quantity of boric acid mentioned is either to be dusted on or rubbed on the mucous membrane in sight. In cases in which the mucous membrane is not visible, it must be insufflated. It is important that the medical attendant should carry out the procedure himself, at any rate at the commencement. The patient should then keep quiet for a time. In from an hour to three hours, peristaltic action will be observed in the colon. He has never seen a failure from this method of treatment, nor had he seen a case where the patient got so accustomed to it that it ceased to be effective. On the contrary, if carried out systematically daily, permanent improvement in time takes place, and normal peristalsis is returned to. He had tried a number of other substances but none had the same useful effect.—*Medical Press.*

SYCOSIS.

℞ Iodoform, 4 parts; lanolin, 30 parts. Leache recommends the above to be applied every night, and to be washed off in the morning with hot water.

MALIC ACID LOZENGES AS AN ANTICATARRHAL REMEDY.

Malic acid lozenges have recently found considerable favor in England as a remedy for sore throat and bronchial cough. They are reported as efficient not only in excessive secretion of mucus and cough, but also in catarrhal conditions of the bowels and in hæmorrhoids.

THE TREATMENT OF BURNS.

Bardeleben treats burns after the following plan. The injured part is first thoroughly washed with carbolic acid solution from 2½ to 3 per cent., or with a solution of salicylic acid about 3 in 1,000. All the bullæ are then punctured and the serum allowed to escape, after which the whole part is thoroughly dusted with finely powdered nitrate of bismuth, and a thick layer of cotton wool applied. The latter is changed whenever it is impregnated with the discharges from the wound. If the burn is a very extensive one, the powdered bismuth may be set aside, and a bismuth ointment used instead. The author affirms that with this dressing cicatrization proceeds rapidly, and there is less discomfort than when any other dressing is employed. Despite the large quantities of bismuth that have been applied no toxic symptoms have been noted in consequence of its use.—*Med. Press and Circular.*

A NEW DIURETIC.

Dr. Gram, of Copenhagen, has lately introduced a new drug known as diuretin. It is made by combining theobromin in such a way as to make it exceedingly soluble, of rapid absorption, and very pleasant to take. It has been tested clinically in Strasburg; is found to act directly on the kidneys without any action on the heart or nervous system, such as we have in digitalis and caffeine.—*Dietetic Gazette.*

TREATMENT OF SYCOSIS VULGASIS.

Dr. Rosenthal proposes a method of treating sycosis which presents three great advantages: the absence of pain, relatively rapid cure, and facility of application. The diseased parts must be carefully scraped every day; and morning and evening, and also three times during the day, the following pomade should be applied:

Tannic acid, 1 gram.
Milk of sulphur, 2 grams.
Vaseline, 20 grams.

The face of the patient remains uncovered during the day. At night, after friction, an emollient paste is applied: Wilson's zinc ointment, salicylic paste, or Hebra's diachylon ointment. With the latter pomade, if the dressing be carefully made, the formation of a sulphate of lead is not to be feared. The author has lately employed with success the following paste:

Tannic acid, 5 grams.
Milk of sulphur, 10 grams.
Oxide of zinc, 17.5 grams.
Starch, 17.5 grams.
Vaseline, 50 grams.

This is applied morning and evening, gauze being placed above the dressing. Epilation is rendered unnecessary by this treatment.—*Annales de Derm. et de Syph.*, No. 4, 1890.

MENSTRUAL COLIC.

Dr. J. C. Da Costa prescribed the following in a case of menstrual colic:

℞. Chloroform (pur.).
Spir. camphoræ, āā f℥ss.
— æther nitrosi.
— æther comp., āā f℥jss. m℥.

Sig. f℥ss-j in ℥j of water, containing ℥j of spirit. frumenti, every half-hour for three doses.

SOCIETY PROCEEDINGS.

Gynecological Society of Chicago.

Regular Meeting, Sept. 26, 1890.

THE PRESIDENT, JAMES H. ETHERIDGE, M.D., IN THE CHAIR.

DR. HENRY BANGA read a paper on

ECTOPIC PREGNANCY, WITH REPORT OF TWO CASES.

(See page 121.)

DR. C. T. PARKES: With all of you I have been very much interested in these cases presented by Dr. Banga. I certainly was in favor of the opinion that all cases of extra-uterine pregnancy should pass into the hands of the laparotomist for treatment; but in looking up the cases I have had under my charge, somewhat to my surprise I came across two which were not treated by operative procedure, and which recovered. I have had seven cases under my charge, which I think were all cases of ruptured extra-uterine pregnancy, with the exception of the last one, which went on the full term and three months beyond full term; she came under my care with a dead fœtus and well-marked symptoms of septic poisoning. The first two cases came to me some years ago, and in looking over my notes of these cases I am confirmed in the supposition I had then, that they were cases of extra-uterine pregnancy. This supposition was mainly based upon the symptoms mentioned by Prof. Banga as indicative of that condition, namely: 1. Acute and severe pain in the pelvis; 2. The usual symptoms of great loss of blood; 3. A previous history of several or many years of sterility; 4. Interruption of previously regular menstruation; 5. Enlargement of the uterus; 6. The presence of a tumor circumscribed in character, to be determined on one side or the other of the uterus if examined before rupture. If after rupture, the discovery of a large mass, doughy and inelastic, in the pelvis and lower abdomen; 7. The presence of a bloody vaginal discharge.

With this array of symptoms it seems hardly possible that the condition can be mistaken, and yet in contradistinction to that we must bear in mind the testimony of a man who has perhaps seen the greatest number of these cases—Mr. Tait. He says he has never seen a case of extra-uterine pregnancy before rupture; that every case that has come to him—thirty-seven in all—has been a case of rupture. So I must object a little to the idea that it is an easy thing to recognize the presence of extra-uterine pregnancy. Thirty-seven cases occurring in the practice of one man would rather indicate that physicians, as a rule, are able to recognize the condition only in its history, or are not aware of the value of these symptoms in all cases. In the first two cases I referred to, one presented all the symptoms that I have passed in review and which were previously mentioned by Professor Banga; but she was not operated upon, because as that time I do not think much operating was done for these cases. She was treated for what was supposed to be a hæmotocele, and she went on in great danger for days and weeks, until I finally aspirated through the abdominal wall and withdrew a large amount of bloody fluid. I aspirated three or four times and she finally got well. The second case presented all these symptoms, and I would now without hesitation advise operation, as a case of extra uterine pregnancy. In this case an opening was made through the vagina and the extravasated blood and remnants drawn away, and the patient recovered.

These are two cases of recovery in which laparotomy was not done. The cases out of the seven, presenting symptoms of ruptured tubal pregnancy, in which laparotomy was done followed by recovery, I have already presented to this Society. The sixth case was a lithopedion, which I removed through the posterior walls of the uterus, and reported the case and exhibited the specimen to this Society. The seventh and last case was that of a lady who went three months beyond full term with an extra-uterine pregnancy and was taken with septic symptoms. I operated upon her and removed the entire sac and contents together. This case again proved what Mr. Tait says is so necessary to believe in these cases as a rule—that they are always outside of the peritoneum—and which is proven also by the frozen section described so beautifully by Mr. Hart. All the organs inside the peritoneum are shoved to one side and the pregnancy is outside, hence the method of treatment of the latter period of extra-uterine pregnancy. The going to full term is a matter of grave consideration and should be well understood. The method spoken of by Dr. Banga has been the one usually adopted—that is, opening down into the sac, sewing it to the wound of the abdominal walls, removing the fœtus, and then packing the cavity with antiseptic gauze. Most of these cases, previous to antiseptic days, died of septic peritonitis. Since antiseptic precautions have been adopted there has been a decided improvement in the death-rate.

The method of treating the placenta is an item of great importance in such cases—that is, whether it should be left or removed. Lately an article from the pen of Dr. Braun has appeared in the *German Archives of Gynecology*, in which he reports two cases. In the first he opened the sac, sewed it to the abdominal wall, removed the child, and then tried to ligate the vessels of the placenta inside the sac and remove the placenta. The patient died from loss of blood. In the second case he opened and sewed the sac to the abdominal walls, but ligated the vessels outside of the sac

by means of stitch ligation, and removed the placenta with no loss of blood. The patient recovered. I think where the pregnancy has gone to full term, it is not best to wait until there is loss of blood from separation of placenta and inability to control it, but to follow the suggestion of Dr. Braun and primarily ligate the vessels outside of the sac, as can be done by means of a needle and ligature, then remove the placenta and pack the cavity with gauze dressing. That seems the safest way.

This is an important subject, and I certainly think the doctor's first patient was very fortunate in many ways, especially in that she fell into such skilful and efficient hands, with gentlemen who were familiar with such cases and able to recognize them early; because I believe, as a rule, it is a condition not easy to recognize. And she was still more fortunate in that she had the confidence a patient should have in the attending physician, and consented to an early operation. One cannot help for a moment agreeing that it is better to do laparotomy before than after rupture.

DR. W. W. JAGGARD: I have listened to the reading of Dr. Banga's paper with great interest. I wish to restrict my remarks to early tubal pregnancy, before and after rupture. In the diagnosis of Dr. Banga's first case there were two signs of pregnancy present that I do not remember having heard the essayist mention. One was the blue discoloration of the anterior vaginal wall, which was more marked in this case than I am accustomed to see it, even in normal pregnancy. Chadwick, in a very excellent paper read before the American Gynecological Society several years ago, calls attention to the diagnostic significance of the blue discoloration of the anterior vaginal wall below the meatus urinarius. The second point was Hegar's sign—the softening and compressibility of the lower uterine segment; compressed between the hand on the abdomen and the finger in the vagina, the lower uterine segment felt as thin as cardboard. A few days since, in conversation with Dr. Gehrung, of St. Louis, he narrated a case in which the lower uterine segment was so thin and compressible that five prominent physicians of St. Louis diagnosticated the case to be one of tubal pregnancy: it turned out to be a case of normal pregnancy. What was supposed to be the uterus was merely the vaginal portion; the lump in the abdomen, the corpus uteri, was separated by a long isthmus, the compressible, lower uterine segment.

The only condition that closely resembles early tubal pregnancy, in my experience, is pregnancy in a retroflexed uterus. During the last summer I saw a case (which a member of this Society had examined very carefully bimanually), and found the vaginal portion of the cervix very much elongated, the lower uterine segment very thin and compressible, so much so that one would not notice it at all unless attention was called to it; behind the vaginal portion, a tumor. The woman had pain; slight hæmorrhage, bearing down, and a discharge of something that was mistaken for decidua. Under the genu-pectoral position for a week, the nature of the tumor was disclosed; it was a case of pregnancy in a retroflexed uterus. The woman is now in her eighth month and expects to be confined soon.

In justice to the gentleman who first examined, it must be said that careful examination under an anæsthetic would have disclosed at once the nature of this retro-uterine tumor. He did not make a positive diagnosis, but begged for an examination under an anæsthetic, which was declined; and the patient came under the observation of Dr. Webster, of Evanston, and myself. As a general rule, when the conditions for bimanual palpation are favorable—that is, when the abdominal walls are thin and relaxed, particularly when the patient can be anæsthetized—I do not think there is much difficulty in the diagnosis of tubal pregnancy before rupture. Moreover, I think there are usually present symptoms enough to attract the woman's attention to her condition and lead her to apply to a physician before rupture takes place.

I wish to congratulate Dr. Banga on his diagnostic skill in this case. It is certainly the first case in Chicago operated upon at so early a date and before rupture of the sac.

As regards treatment of tubal pregnancy before rupture, I think the weight of evidence and of responsible opinion is in favor of laparotomy with extirpation of the sac. It is true that fœticide by means of electricity is defended, more particularly in the Eastern United States. I do not think this practice can be upheld on rational grounds nor upon the results that have followed the use of this method. The one individual to whom honor is due for establishing laparotomy before rupture is J. Veit, of Berlin, who has operated successfully on some seven cases.

The universal proposition that laparotomy should be performed in every case of ruptured tubal pregnancy cannot be accepted at the present day. The natural history of tubal pregnancy shows that in the majority of cases recovery results; there are five favorable terminations to one unfavorable. In the first place, the tube may rupture into the broad ligament, and we have the formation of a hæmatoma, or a broad ligament pregnancy, both relatively favorable terminations for the time being. Sometimes the tube ruptures and the egg remains *in situ*, acting as a tampon—also a favorable termination. Then we have the tube rupturing, and the product of conception, and blood, forming a retro-uterine hæmatocele—a relatively favorable termination not demanding a primary laparotomy. I think the essayist goes a little too far when he says all retro-uterine hæm-

atoceles are the results of tubal pregnancy. That view was advanced years ago by Dr. Gallard, but it has been sifted down to about 75 per cent. due to ruptured tubal pregnancy. Finally we have the tube ruptured, with free intraperitoneal hæmorrhage, the woman dying either of primary hæmorrhage or from secondary peritonitis. There is only one among all these terminations that is unfavorable, and I think, therefore, it is not right to say perform laparotomy in every case of ruptured tubal gestation. Perform laparotomy when there are signs of free intraperitoneal hæmorrhage, when there is evidence that peritonitis will likely ensue. It must be borne in mind that in case of rupture before the third month the ovum is sterile and all its surroundings are commonly sterile, and in some cases even of intraperitoneal hæmorrhage the blood and fœtus will be dissolved.

DR. D. T. NELSON: The subject has been so freely discussed that it is hardly worth while for me to take the time to discuss it more, especially as I can hardly differ from the expressions already made. However, I will refer to one case which I saw five or six years ago. This case was just beyond term, or perhaps exactly at term—it was difficult to determine the exact date of pregnancy. But she had had a kind of false labor, thought herself in labor, sent for a physician, who found there was some difficulty in a normal delivery and suspected extra-uterine fœtation. The following day I saw the patient in consultation; there could be no question but that the woman was pregnant, and no question that the fœtus was outside the uterus. After making an examination I became satisfied that the fœtus was alive, but so very feeble that it seemed to me there was no hope of saving the child by operation; and then I had the thought, as I have now, that it is not the best time to operate at full term unless you can save the fœtus. In this case there seemed no hope of doing this, because there were only the slightest movements, while the day before they had been fairly strong, and the day before that well-marked and active. I advised against operation at that time, as I thought there would be more likelihood of saving the mother by waiting until the placental circulation had diminished very considerably, as I believe it does after the death of the fœtus. What has become of the patient I am unable to say.

DR. FRANKLIN H. MARTIN: I should like to make a few remarks on the power of electricity to destroy the fœtus in these cases. I think it is a little too radical to say that no other treatment than laparotomy should be used for the treatment of tubal pregnancy; I believe, with those who have spoken to-night, that laparotomy should be performed for this condition if the diagnosis is reasonably certain, and the consent to an operation of all parties concerned can be obtained. If the patient has the confidence in her physician that the patient exhibited in this case, and the operation can be done, then perform laparotomy. There are cases, however, where laparotomy will not be tolerated. Thomas in the lead, we have pretty good authority for the substitution of electricity in these particular cases.

In connection with this subject I have made some experiments. They are not extensive nor conclusive, but certainly suggestive; they are in the direction of determining which current to choose, if we decide to use electricity in these cases. I believe that Thomas and others recommend the faradic current in preference to galvanism. It has always seemed to me that it is desirable to employ every precaution against rupturing the sac; if this be so, and the fœticidal effects of galvanism and faradism are the same—that is, if they are equally efficacious—I should say under those circumstances use galvanism; because, if employed with an absolute gradual rheostat so as to produce no break, it can be applied with the minimum abdominal muscular contraction or other muscular contractions which favor the rupture of the sac. The experiments that I made were for the purpose of determining the relative fœticidal value of the two currents. The experiments were conducted by the employment of incubating hens' eggs. A given number of fresh eggs, all obtained from as near the same source as possible, were placed in an incubator and placed under the charge of an expert chicken breeder. These eggs were divided previously into four divisions, and properly marked. At the end of one week after the eggs were set two portions of the eggs were operated upon by electricity; one portion by a very strong (as strong as could be tolerated by an unanæsthetized patient) faradic current passing for five minutes; the other portion by a 20-milliampère current, electrode 4 sq. cm. in area, also passing for five minutes. The galvanic current was applied by means of a gradual rheostat in such a manner as to produce no make or break in the flow.

At the end of two weeks of the incubation the other two portions of the eggs were treated by electricity in the same manner, with the exception that the faradic current was made much stronger (such as would be tolerated only by an anæsthetized patient) and the galvanic current increased to 50 milliampères.

When the eggs had passed the allotted time for hatching, about 80 per cent. of the first lot acted upon by the faradic current hatched, while not one of those treated by the galvanic current hatched. Of the second lot about 60 per cent. remained undestroyed, while not one of the chicks treated by galvanism succeeded in piercing its shell.

This proved to my mind quite conclusively, as far as chicks are concerned, that electricity in the form of galvanism is much more efficient than

faradization; in fact faradization had little effect upon the eggs. If this same ratio of value should exist in the power of electricity to destroy the human ovum, we have an additional scientific advantage in galvanism in being able to regulate our dose. One can cause to pass through a fœtus encased in its sac exactly the same dose and the same density that caused the destruction of the fœtus in these eggs, and I have no doubt whatever that a fœtus of three or four months' growth would be deprived of life as effectually as the chicks were at the end of two weeks of incubation.

Dr. Christian Fenger: Mr. Chairman, Gentlemen of the Society: I have heard the paper with a great deal of interest, and congratulate Dr. Banga on his very successful operations. The subject of ectopic gestation in general, particularly the later stages, is too large for discussion in one evening.

It is remarkable how of late years the number of reported operations for extra-uterine pregnancy has increased. Let us take the last three years, 1887, 1888, 1889. In 1887 there were about 50 operations recorded, in 1888 there were 70 operations, and in 1889 110.

Of the 70 cases reported in 1888, 15 were of tubal pregnancy in which the early operation was performed—that is, before rupture—with 3 deaths, a mortality of 20 per cent. In two of the fatal cases the sac was fastened in the abdominal wound. In the remaining 13 cases total extirpation of the tube with its contents was practiced; the operation was, as a rule, comparatively easy, and the results consequently better.

Sixteen cases were operated upon at the time of rupture, with 5 deaths, a mortality of 31 per cent. or much greater than the mortality when the operation was performed before rupture of the sac. We may here mention Lawson Tait's 28 cases with only 1 death, a mortality of only 3½ per cent From the report of these cases, however, it cannot be seen whether the operation was performed at the time of, or some time after, rupture.

Ten cases were operated upon several weeks after rupture, and only 1 died, a mortality of 10 per cent. At this time the patient has recuperated to a certain extent. This, of course, does not mean that the operation should not be done at the time of rupture.

Then, again, come the 6 cases Dr. Jaggard has mentioned, where nothing was done and only 1 of which died. Dr. Parkes and Dr. Jaggard have mentioned that the contents of the sac in early tubal pregnancy are aseptic and will not cause peritonitis.

In 1889 there are on record 75 cases operated upon in the first half of pregnancy, of which 10 died, a mortality of 13 per cent. Twenty-eight of these were operated upon before the rupture of the sac, all of which recovered; 21 were operated upon at the time of rupture, with 17 recoveries and 4 deaths, a mortality of 19 per cent.; 26 were operated upon some time after rupture, when the patient had recovered from its immediate effects, with 20 recoveries and 6 deaths, a mortality of 23 per cent.

The entire mortality for the first half of pregnancy in 1888 was 26 per cent., while in 1889 for the same class of cases it was 13 per cent. The rapid increase in the number of cases reported shows either that now an earlier diagnosis is more frequently made or that laparotomy is now more readily resorted to for peri-uterine tumor, whether a positive diagnosis of tubal pregnancy can be made or not. We also see that early operation in extra-uterine pregnancy has given better results each succeeding year.

The rest of the statistics belong to the later periods of pregnancy, and I shall not mention them in this connection, because it really does not come under the subject of the paper—"Early Tubal Pregnancy, its Symptoms and Treatment." My own experience is almost none. I have seen one case where the sac had ruptured and very severe hæmorrhage had set in, but in which, under expectant treatment, the patient finally recovered.

In 1888, the statistics gathered by Harris, of Philadelphia, showed twenty-seven cases of laparotomy with living children. Of these, twenty-five mothers died, and of the twenty-five living children thirteen died within fifty hours. This frightful mortality led Litzman to give the advice, based upon a record of twenty-six cases with six deaths, not to operate until the child was dead and the placental circulation had ceased, so as to avoid placental hæmorrhage.

Lawson Tait was the first to take up a strong position against the practice of sacrificing children. He has recorded three cases of operation with living children, in which he saved all the children and two mothers. He further argues against Harris as to the lack of vitality in the children of extra-uterine pregnancy, stating that the three children above mentioned were living and healthy, so much so that one of the children he saved by this operation is his adopted son and prospective successor.

The operations recorded for 1889 show a great improvement in the results of operations in the last half of pregnancy, inasmuch as thirty-five cases had only six deaths, or 17 per cent. Furthermore, the operations with living children for the last two years tend to bear out Harris in his assertion that the regard for the child must be a secondary one, inasmuch as in eleven operations —six in 1888, and five in 1889—only four living children were saved, and as four out of the eleven mothers died, a mortality of 36 per cent.

As to the fate of the mothers when operating after placental circulation has ceased, there were

reported, in 1888, eighteen cases with six deaths; in 1889, twenty-six cases with three deaths; in all, forty-four cases with nine deaths, or a mortality of about 20 per cent. Thus it is safer for the mother, as Litzman proposes, as against Lawson Tait, to wait until the child is dead and the placental circulation has ceased.

In this connection I will also say that five years ago I thought exactly as Dr. Nelson does, and I think so now, and in a case of extra-uterine pregnancy present low down in the vagina, waited until the fœtus had died, and then waited six weeks longer until the placenta had ceased to pulsate, and then still two weeks more in order to be safe. I then removed the child, which was at full term, through the vagina. The case has been mentioned in this Society, as Dr. Holmes was kind enough to see the case at the time with a view of determining whether such a fœtus was septic or aseptic.

I do not see that we have time to discuss the details of the value of these late operations in extra-uterine pregnancy, whether through the vaginal wall or through the vagina.

DR. C. W. EARLE: In the very brief remarks which I will make I desire more particularly to speak regarding the diagnosis of these cases. In the discussion up to this time it would seem that about the only thing to be done is to stop the growth of the fœtus either by electricity or morphine, or remove the sac by laparotomy. The most important but difficult question, in my judgment, is to arrive at a correct diagnosis. Dr. Jaggard's remarks reminded me of a case to which I was called in consultation a few months ago. It was believed to be a case of extra-uterine pregnancy, and the gentleman who asked me to see the case with him thought an operation would be necessary. He based his diagnosis upon the points Dr. Jaggard made—that is, the thin condition of the wall found by digital examination; the wall that separated the finger from the fœtus did not seem thicker than a sheet of paper, and yet after careful examination we both agreed that the fœtus was inside the uterus, and the case went on to a safe delivery at full term. A few minutes before I started for this meeting I took Winckel's last work, translated by Edgar, and jotted down the symptoms upon which he based his diagnosis. While he considers that it is a difficult condition to diagnosticate, he believes, after an experience in thirteen cases, that he can usually arrive pretty closely at a correct conclusion. He bases his diagnosis upon these symptoms: First, the cessation of normal menstruation, previously normal; second, hyperæmia and secretion of the breasts; third, hyperæmia and lividity of the vulva (this symptom has been thoroughly discussed by Dr. Banga and Dr. Jaggard); fourth, strong pulsation of blood-vessels in the vault of the vagina; fifth, softening enlargement, and displacement of the womb; sixth, a clearly defined and growing tumor; and lastly, a murmur or souffle above the symphysis, heard at rather an early period. He insists on frequent observations and examinations, so that he can determine the rapidity of the growth of the tumor. I think Dr. Jaggard's statement that all authorities, except Americans, believe in early laparotomy in these cases, is a little too positive. In Winckel's book he states decidedly that he believes there is a chance for, first, electricity; secondly, for a trial with morphine or some of the other poisons that will destroy the life of the child.

DR. BAYARD HOLMES: The mother is exposed in extra-uterine pregnancy to an immediate and to a remote danger. The immediate danger is fatal anæmia when rupture of a tube takes place, and the remote danger is sepsis in a limited hæmatoma or in a retained dead fœtus. For the anæmia there seems to be an indication for transfusion which may prove valuable. In a study of the bacterial condition of dead extra-uterine fœtuses which I presented to this Society, my attention was called to the great danger of sepsis. Hæmatomata in other parts of the body are ordinarily removed without any febrile disturbance, except that early and transient rise which has been attributed to "ferment intoxication." The case is very different in those pelvic hæmatomata which are due to extra-uterine fœtation. Both the retained dead fœtuses and the hæmatomata in this region become infected, in the great proportion of cases, within six months, and a large percentage of the remainder by the end of a year. This fact, I believe, is to be explained by the cause of extra-uterine fœtation, which there is great reason to believe lies in an antecedent infective inflammation in the tubes or the endometrium.

In order that an extra-uterine pregnancy may take place, there must be some malformation or deformity in the sexual apparatus. It does not take place in the normal condition of the tubes and uterus. That it may be a malformation we can readily see, because the present condition of the human uterus is evolved from a very large and divided uterus which is exhibited in the fœtus and the lower animals. We may expect an occasional reversion to the original type, and hence a risk of extra-uterine fœtation. Such an arrest of development cannot often occur, because anatomists do not find these deformities frequently.

Most cases of extra-uterine pregnancy are preceded by a long term of sterility following an unhealthy puerperium, which in itself points to some deformity in the sexual apparatus arising from one cause or another. It is probable that most of these cases of deformity are due to a process of inflammation, and that inflammation is due to sepsis, and sepsis is due to infection; that

accounts for the presence, in close proximity to this extra-uterine fœtus, of septic material, and it is the presence of that septic material which converts the hæmatoma into an abscess. Of course we must always consider the possibility of pressure atrophy between the heavy, dead fœtus and the contents of the bowel (hard fæces) opening a communication between the bowel and the fœtus and producing infection in that way. That must be considered in these cases, but it cannot well be considered in cases of large accumulations of blood. We cannot consider the possibility of suppuration or any septic decomposition of a large mass of blood without infection; that is impossible. Infection is rare through the circulation, but it is not wholly unknown. Therefore I look upon the indication to be these two: The dangers from hæmorrhage and the dangers from sepsis. But the danger from sepsis is imminent on account of the probable etiology of extra-uterine fœtation.

Dr. E. W. Sawyer: I will add but one thought, which was brought to my mind by the remarks of Dr. Nelson—that is, that a sort of false labor sometimes appears at term. This reminded me of a case I attended in 1874, with Dr. Justice, of Denver, in a little village in the foothills of Colorado called Boulder. The woman had expected to be delivered two years before our visit, and was visited by a very intelligent attendant who described a series of phenomena nearly approaching normal labor, which extended through a period of nearly twenty-four hours; then everything subsided. She carried her size for about a year, when she grew smaller and became active again. She was the wife of the proprietor of the single hotel there, and we visited her for the purpose of performing laparotomy. The details of the operation shock me now as compared to the precautions taken to-day. We operated and removed a fœtus which weighed 4¾ lbs. Its tissue was converted into a sort of adipocere, so that in flexing the elbows the tissues cracked. The sac contained much pus, and the precautions against sepsis were not to any degree observed. The poor woman died at the end of about three days.

Dr. H. W. Banga, in closing the discussion, said: As to the diagnosis of these cases, Dr. Jaggard mentioned a case of retroverted uterus that was taken for extra-uterine pregnancy, and remarked that probably by using an anæsthetic the true condition of the case would have been revealed at once; so I would repeat that for a correct diagnosis it is absolutely necessary to use an anæsthetic, as I think we ought to do, and probably most of you do if in doubt about the nature of any pelvic disorder. Dr. Jaggard took exception to my statement that laparotomy should be performed in all cases of rupture. I see I did not make my statement plain enough. I had in view what was *formerly* called extra-uterine pregnancy, thus excluding beforehand the cases of hæmatocele. Up to a few years ago hæmatocele was not described as one of the outcomes of a case of tubal pregnancy, and, as far as its clinical aspect is concerned, it takes an entirely different run from free rupture into the abdominal cavity. Since I have listened to Dr. Holmes' remarks I am more than ever convinced that laparotomy is the thing to be done in the latter cases.

I should think it only proper to try in this manner to stop the hæmorrhage if the symptoms show that internal hæmorrhage is the prime danger, or to remove a septic fœtus and wash out the peritoneal cavity if sepsis is the more prominent symptom. In relation to this question of doing laparotomy, we must always bear in mind that from year to year laparotomy, as such, becomes less dangerous; and we all know, too, that as each of us sees more of these cases, we also have more personal confidence in being able to control sepsis. I must say that I consider the dangers incident to the operation, as such, to be very small. I further refer Dr. Jaggard to what I said about the treatment of hæmatocele. I did not recommend any immediate surgical interference in those cases. I said I would first wait for resorption, because I knew that resorption is the rule in a case of hæmatocele; should it fail to occur I would try an operation. Dr. Parkes related a case that he cured by aspirating; I have had a similar one. Then, if the symptoms warranted it, I would open and evacuate, either through the abdomen or through the vagina. In my second case, the steady increase of the tumor, causing intense pain, and the displacement of the bladder away above the symphysis, so that the patient was entirely unable to pass water, were the direct indications for operating. In cases of hæmatocele there is very little danger of the patient bleeding to death, because, no doubt, the beginning of the hæmorrhage occurs into the distended tube or between the folds of the broad ligament. During the first hours or days it is a hæmatoma, and only after the tension of the bloody tumor has become such that the covering peritoneum finally tears will there be a free effusion of blood into the abdominal cavity. This was quite plain, I think, in my second case. There was a hæmatocele filling out the Douglas cul-de-sac up to near the umbilicus, and inside of this sac was what we might call a hæmatoma of the left broad ligament, or rather a hæmatomo-salpinx, because the big coagulum corresponded to the middle of the left tube, both ends of which were torn by the accumulation of blood within.

Hardly ever is there any immediate danger from hæmorrhage in case of hæmatoma or hæmatocele, because the coagulum which forms at the seat of the first oozing acts as a compressing tampon on the ruptured blood-vessels. But where the sac ruptures freely into the abdominal cavity,

the patient is liable to bleed to death, either in a few hours or a few days. I remember about nine years ago having seen such a case. It was a very hot day in July. The lady was getting ready to go down town, and while she was standing before the glass, giving the finishing touch to her toilet, she was suddenly seized with vertigo and a sharp pain in her abdomen; she began to vomit, and had all the symptoms of cholera morbus. Several physicians were sent for, and, as she had diarrhœa and tenesmus within an hour of the first attack, they took it for a case of cholera morbus. This occurred about 10 o'clock in the morning, and I was called in about 9:30 in the evening. At that time I was making reports from German periodicals for Dr. Mundé, and there was much discussion going on about extra-uterine pregnancy; so that when I saw the patient I at once thought, "I wonder if this is not a case of rupture of an extra-uterine ovisac?" She was almost bloodless; the lips and conjunctiva had lost all color; she was breathing heavily, had no pulse; the skin looked waxy and was covered with a cold sweat; she was apparently dying. By digital examination I found the posterior cul-de-sac bulging down, giving a peculiar doughy, soft touch, which to me plainly demonstrated an accumulation of something like coagulated blood.[1] While I was there the patient died. I was so much interested to know what it was that I got permission of the husband to make a post-mortem. On opening the abdomen the black, half-coagulated blood welled out, and, after removing it, I found a tubal ovisac about as large as a big plum, which had burst, thus causing unhindered oozing of blood, and death. The patient had been married eight weeks; had gone two weeks over her last menstruation.

I should think it impossible to confound a case of free hæmorrhage into the abdominal cavity, and a case of hæmatoma or hæmatocele retro-uterina.

To Dr. Parkes I would say I did not leave any coagula in the hæmatocele sac; I opened it and scooped it out with my hand. Of course there is nothing so apt to undergo quick disintegration as blood.

FŒTUS PAPYRACEUS.

DR. W. W. JAGGARD: My friend and former pupil, Dr. A. E. Froom, of Chicago, gave me the specimen that I have the honor to present.

History.—May 1st, 1890, Dr. Froom was called to see Mrs. M., age 21 years, recently married; three months advanced her in first pregnancy; suffering from nausea and vomiting. The complaint not yielding at once to the usual simple remedies prescribed, the patient applied, but without benefit, to several prominent physicians. Finally, about the fifth month, she returned to Dr. Froom. At this time the woman was in a most distressing condition — incessant vomiting and retching, diarrhœa, bloody stools, tormina and tenesmus, fainting spells. The woman complained of intense vulva and anal pruritus, and upon examination Dr. Froom discovered a "a scaly eruption about the parts," and infiltration of the inguinal glands on both sides. Alopecia was also observed. The diagnosis of syphilis was made, although a careful search failed to reveal the initial lesion.

Under the exhibition of mercury the woman showed immediate and marked improvement.

August 12th patient fell in premature labor. Patient had not been able to perceive fœtal movement for the week previous, and the heart tones were not perceptible. After four hours of labor a macerated fœtus, corresponding to the seventh month, was expelled; it was followed in ten minutes by the placenta. Dr. Froom was about to irrigate the uterine cavity when he noticed the intact membranes of a second ovum presenting at the os externum. This second ovum, corresponding to the third month, was easily expressed. Puerperium normal; uterus is single. The father admits syphilitic infection three years ago.

The specimen consists, as you see, of a twin pregnancy.

The first twin, female, length 35 cm., weight 1172 gm., with its macerated epidermis, is a typical example of the *fœtus sanguinolentus* (E. Martin). It corresponds to the seventh month. It also presents certain objective signs of syphilis that are perfectly distinct from mere cadaveric changes. These are: 1. The line of syphilitic osteo-chondritis at the junction of the diaphysis with the epiphysis in the long bones, described by Wegner. In this specimen you can see this line in the upper and lower epiphyses of the femur. 2. The spleen is greatly increased in volume, consistence, and weight. It weighs 12 gm., or 0.98 per cent. of the total weight of the fœtus, while the average normal weight of the spleen at birth is 9 gm., or 0.3 per cent. of the body weight. According to Ruge, in normal fœti, under 2,000 gm. the weight of the spleen is $\frac{1}{400}$ of the body weight; in non-syphilitic macerated fœti, $\frac{1}{800}$; in syphilitic macerated fœti, $\frac{1}{1000}$. In this case the spleen is $\frac{1}{97}$ of the body weight. 3. The liver weighs 52.5 gm. According to Ruge, in normal fœti under 2,000 gm. the weight of the liver is $\frac{1}{21}$ of the body weight; in non-syphilitic macerated fœti, $\frac{1}{46}$; in macerated syphilitic fœti, $\frac{1}{23}$. In this case the liver is about $\frac{1}{22}$ of the body weight.

No gross lesions were detected in the cord, lungs, liver, spleen, and these organs have not yet been examined microscopically.

Unfortunately, the placenta was thrown out by the nurse. Dr. Froom said the cord was œdematous (?), and that an amber-colored, transparent

[1] Veit, as I have read since, claims that it is impossible to diagnose by digital examination an accumulation of coagulated blood in the abdominal cavity.

substance, of the consistence of jelly, was attached to the membrane.

The ovum of the second twin is intact; its weight is 88.5 gm., and it presents an instance of mummification—the usual post-mortem change in fœti between the third and sixth months *in utero*. The placenta, fully formed, is flattened and compressed into a solid disc 10 cm. in diameter. The liquor amnii has disappeared. The fœtus, about three months old, male, 13 cm. in length, is a typical example of the *fœtus papyraceus*—the form commonly observed when a dead fœtus, retained *in utero* for a considerable period, is strongly compressed and flattened out, as the name implies. The conditions for this peculiar mode of compression are best supplied in twin pregnancy, in which, while one fœtus dies, the twin goes on to complete development.

The points of interest in this specimen that I beg to mention are:

1. These fœti—each with its own placenta, chorion and amnion; the one female, the other male—contained within the same single uterine cavity, are probably the resultants of the simultaneous fecundation of two ova. These ova may have come from the same Graafian follicle, or from the same ovary, or from both ovaries. According to the old view, the fact that the placentæ are entirely separate would indicate that the ova did not come from the same ovary. For some cause, not now discoverable, the ovum containing the male was crowded to the wall by the other, and converted into this flattened-out, paper-like mass.

The specimen, probably, is not an example of superimpregnation. While the possibility of superfecundation—that is, the successive fecundation of two or more ova out of the same ovulation period—in the human animal must be admitted, its actual occurrence has never been demonstrated. The not uncommon occurrence, 1, of a white woman having twins, one a mulatto, the other white; and 2, of a black woman's twins, one black, the other a mulatto, does not prove successive fertilization by different men. Kussmaul has correctly pointed out that in the crossing of races the offspring may resemble most closely either parent, so that a white infant born of a white woman may be the legitimate child of a negro. Schultze emphasizes this opinion, and demands, for the demonstration of superfecundation, two different children of a white woman after cohabitation with two men differing in race from each other and from the mother. Such an observation up to the present has not been recorded. Undoubtedly superfecundation occurs in mares, bitches and cats, among the lower animals, but then multiple pregnancy is the normal among these animals, while it is exceptional and closely allied to the abnormal in the human animal. Conclusions drawn from observation of the lower animals accordingly cannot be applied directly to human beings.

The principal arguments against *superfœtation*—that is, conception during pregnancy—lie in the suppression of ovulation and the disappearance of the cilia of the epithelium of the endometrium during gestation, and finally the entire absence of observations, that would make this hypothesis plausible.

2. First pregnancies are seldom multiple pregnancies.

3. The objective signs of syphilis in the macerated fœtus, that are perfectly distinct from the cadaveric changes of non-syphilitc macerated fœti retained within the cavum uteri. I venture to emphasize this point, because it is a common error to regard all macerated fœti as syphilitic. Indeed, between 70 and 80 per cent. of such cases are syphilitic, but there remains a certain number in which the *fœtus sanguinolentus* is merely the result of cadaveric change. In some of these cases of the latter class, it is very difficult to make an anatomical diagnosis, since the relative increase in the weight of the viscera is not an absolutely certain sign of syphilis, and the normal line of Guerin may come to resemble the ostea-chondritis described by Wegner.

EXHIBITION OF BROMIFORM.

Dr. Chas. W. Earle: I want to occupy two or three minutes of the time of the Society in the consideration of a very unpopular procedure—that is, the administration of medicine—and introduce to your notice bromiform, the latest remedy for whooping cough. About six weeks ago my attention was called to this drug by an article in a German paper, and about that time an article was also published in the *Medical Record* by Dr. Fischer, reporting some sixteen cases to which he had administered it with marked benefit. By this time I had procured the medicine, and have now had experience with it in six cases. In five cases there has been marked improvement, although it was not a fair trial, because they had passed pretty well along into the second stage and had commenced to recover. In some of these cases there were thirty paroxysms a day previous to administering the drug, and in four days the paroxysms had been reduced to ten. It has rather a sharp, pungent odor, and it is best administered in syrup of acacia. I usually combine it with a little paregoric. The dose for a child two years of age is two drops, a child four years old four or five drops. Usually the administration from twenty to sixty drops in five or six days lessens the number of paroxysms. It is best given after meals; and the children to whom I have administered it have made no objection to taking it. It is recommended by several of the leading practitioners in Vienna, and I bring it before the Society because we are having considerable whooping cough and I think it would be well to give it a trial.

SPECIAL CORRESPONDENCE.

Treatment of Blepharospasm.

To the Editor:—In the last number of THE JOURNAL (December 27, 1890), under the heading of "Treatment of Blepharospasm," Giraud, (*Thèse de Paris*) is quoted as treating this annoying and at times intractable affection by forcible dilatation, using a pair of retractors or a spring speculum—the separation of the lids being carried to a degree of exposing the conjunctival culde-sac—and keeping the eyelids in this position for three or four minutes. For several years I have been using a similar method in my clinic at the New York Eye and Ear Infirmary—with the difference that I do not forcibly put the orbicularis palpebrarum on the stretch. The good results, not from stretching, but from the exposure of the sensitive cornea to daylight—the natural stimulus of the eye. In all cases of conjunctival or corneal trouble this procedure cures the blepharospasm if it exists. The speculum is put between the eyelids and opened so as to expose the cornea. Patient is kept with the eye exposed to diffuse daylight from five to ten minutes. I find that most of the cases occur in children and are due to phlyctenular keratitis. In many of the cases the photophobia is very great, and the children avoid light with might and main. The little sufferer buries its face in the pillow or the mother's breast. With this condition existing for a few weeks—the room darkened, perhaps—it is easy enough to imagine how a blepharospasm comes on. If the child is placed in an upright position or put on its back, the chances are that it will begin to sneeze. This is due to the change in temperature that takes place in the nose. When the head is buried in the breast or pillow the nose is kept unduly warm by the breath, but on changing from the bent position, so that the breath does not unduly heat the nose, the sneezing begins, the slight change in temperature is sufficient. In this connection I may add that it is not the light which causes the child to sneeze, as some suppose.

With regard to the suggestion of using an eye speculum in blepharospasm, the credit, if I am not mistaken, belongs to the late Dr. C. R. Agnew. Very truly,

PETER A. CALLAN, M.D.

New York, December 29, 1890.

Shall The Journal be Removed to Washington?

To the Editor:—I cannot see any valid reason for changing the locality of publication of THE JOURNAL. If at any time it could be shown that the interest of THE JOURNAL and of the members of the Association would be enhanced, then I am ready to coöperate with the members in such action. It seems to me removal to Louisville, Cincinnati or New York would be just as good as Washington. Facilities of mail are such that subscribers will receive THE JOURNAL within a few hours as soon from Chicago as any other point. N. HOLTON, M.D.

Harkers Corners, Ill., Jan. 13, 1891.

To the Editor:—By all means *do not* remove THE JOURNAL office. Chicago I consider by odds the *very best* place for the office for several splendid reasons; the first I consider enough —"that it is so easy of access from any part of the United States." I also think that there are a good many other *good* reasons in favor of Chicago, but do think this one enough, especially when compared with Washington, which place I think has no *good* reason in favor of such a removal.

H. K. TEFFT, M.D.

Topeka, Kan., Jan. 11, 1891.

To the Editor:—I am opposed to the proposition made to move the publication office and management of THE JOURNAL of the Association to Washington City. I vote CHICAGO to be continued as its permanent home because it is most central and has unexcelled mail facilities to all parts of the country, and because it is now and will continue to be nearer the centre of population, and destined to be the greatest medical centre of the United States.

I would formulate a ballot and distribute to every member of the Association, requesting his vote on location, with signature and P. O. address, to be returned to the committee having the question of location in charge. This seems to be the legitimate way to satisfactorily settle the issue. W. W. HESTER, M.D.

3640 Cottage Grove Ave., Chicago, Jan. 16, 1891.

To the Editor:—While there appear so many reasons for keeping THE JOURNAL where it is, I oppose the question of removal. It would seem that the facility of distribution which the present location affords should decide the matter if nothing else does.

I second Dr. Dimmitt's motion that a vote be taken at an early date. This will give every member a chance to express his opinion.

W. E. WARD, M.D.

255 North ave., Chicago, Ill., Jan. 17, 1891.

To the Editor:—I am opposed to moving THE JOURNAL to Washington or any other city. The suggestion of Dr. Dimmitt's (January 17) is a good one. J. N. DIXON, M.D.

Springfield, Ill., Jan. 19, 1891.

To the Editor:—There is no city in the United

States more suitable for the publication of THE JOURNAL than Chicago. It is unwise to move, and it is the height of folly to move THE JOURNAL from a large, rapidly growing city with its large material for journalism, to a small town, even though it be the capital of the country.

J. F. JENKINS, M.D.

Tecumseh, Mich., Jan. 19, 1891.

To the Editor:—Let THE JOURNAL remain where it is. I. N. BRAINERD, M.D.

Alma, Mich., January 19, 1891.

To the Editor:—From a common-sense view of the subject, it does appear that a petty rivalry plays a prominent part in the controversy.

If there is one cause more patent than all others why THE JOURNAL should be moved, it perhaps lies in this query: Is it more profitable to cater to the whims of one faction rather than observe the old adage, "let well enough alone?"

Whilst it is probable that THE JOURNAL would receive an additional support, both in contributors and readers, if moved, yet this gain would most likely be at the expense of losing some of the present support.

But for a solution of this problem, much of course depends on a proper appreciation of the rivalry existing between the two sections, and the bearing of this rivalry on the medical profession.

A medical journal in any section of the country, receives most of the support from the near surroundings, and becomes identified with the writers of that section. A journal in the East is supported mainly by Eastern writers, in the West by Western, and in the South by Southern writers.

This is all well enough generally, but when a journal belongs to a National Association, such a tendency to become identified with any one section, to the exclusion of all others, is detrimental to the better interests of the Association, and should be thwarted in its incipiency.

To argue that THE JOURNAL, if moved to the East, would not, in after years, become identified with Eastern writers to a very great extent, seems contrary to our past observation.

Chicago is neither Eastern, Southern, nor extremely Western, and should be taken as a liberal compromise.

To let it remain would only disappoint a *small* number of the Eastern members of the Association, *but to remove it to Washington would meet with almost the unanimous opposition of the North, South and West.* The postal facilities are such that it makes but little difference whether THE JOURNAL is printed in Maine or California.

Should it be removed to Washington, the Eastern correspondents would have to send their communications and receive their JOURNAL by mail, just the same as at present. It is no more trouble nor expense to address THE JOURNAL at Chicago than at Washington. Then what is to be gained by removing it to Washington?

W. F. ROCHELLE, M.D.

Jackson, Tenn., January 19, 1891.

NECROLOGY.

DR. ARCHIBALD O. AMEDEN, formerly of Ticonderoga and health officer of Glens Falls, N. Y., died suddenly in his office, November 28, of cardiac disease. He graduated from the Medical Department of the University of Vermont in 1865, and was a member of the Warren County Medical Society.

DR. GLOVER PERIN, Colonel and Assistant Surgeon-General, U.S.A., retired, died at his home in St. Paul, Minn., December 15. He was appointed Assistant Surgeon U. S. A., from Ohio, December 4, 1847, and attained the rank of Surgeon and Major May 21, 1861. His experience covered the Mexican and Civil Wars. He was Medical Director of the Department of the Cumberland, headquarters at Louisville, Ky., during the latter contest, in which capacity he displayed great administrative ability, and later he was in charge of one of the general hospitals in Evansville, Ind. After the close of the war he served as Medical Director of the Department of the Missouri for six years, and the Department of the Dakota from 1883 to his retirement in 1887.

DR. FREDERICK SALZER, one of the Professors of Surgery at the University of Vienna, died somewhat unexpectedly on Nov. 30. He had been just twenty years in the professorate. The *Brit. Med. Journal* says: "In him consummate surgical skill was associated with remarkable good luck in respect of the results that followed his operations, two things that do not always go together. He did not wield the pen with the same facility as he used the knife, and he contributed comparatively little to surgical literature." He was sixty-three years of age.

DR. ALFRED F. HOLT died in Martin, Fla., whither he had gone in quest of health, Dec. 28, 1890. He was graduated from the Medical Department of the University of Vermont in 1860, and joined the 30th Massachusetts Infantry a year afterward, as Asst. Surgeon, but was promoted Nov. 26, 1862, to be Surgeon of the 1st Texas cavalry, and was mustered out as the Lieut.-Colonel commanding of the latter regiment May 20, 1865. He performed many acts of personal heroism in carrying wounded soldiers off the field of battle, and was commended in general orders for his bravery. At the time of his

death he was Surgeon-General of the Massachusetts Volunteer Militia, having been appointed by Gov. Robinson Jan. 3, 1884, and also U. S. Pension Examiner for Cambridge, Mass.

MISCELLANY.

LIST OF PERMANENT MEMBERS.—The following names were omitted from the List of Permanent Members: Dr. M. H. Burton, Troy, N. Y.; Dr. J. R. Hinkle, Sullivan, Ind.; and Dr. S. J. Wright, Tallmadge, O.

HEALTH IN MICHIGAN.—For the month of December, 1890, compared with the preceding month, the reports indicate that puerperal fever, cholera infantum, pleuritis, membranous croup, pneumonia, inflammation of bowels, inflammation of brain, measles and whooping-cough increased, and that typhoid fever and scarlet fever decreased in prevalence.

Compared with the preceding month the temperature was lower, the absolute humidity was less, the relative humidity was slightly more, the day ozone and the night ozone were more.

Compared with the average for the month of December in the four years 1886–1889, pleuritis, membranous croup, influenza, puerperal fever, cholera infantum, bronchitis and cholera morbus, were more prevalent, and measles, typho-malarial fever, whooping-cough, and typhoid fever were less prevalent in December, 1890.

For the month of December, 1890, compared with the average of corresponding months in the four years 1886–1889, the temperature was slightly lower, the absolute humidity and the relative humidity were slightly less, the day ozone was slightly less and the night ozone was more.

Including reports by regular observers and others, diphtheria was reported present in Michigan, in the month of December, 1890, at 70 places, scarlet fever at 100 places, typhoid fever at 41 places, and measles at 33 places.

Reports from all sources show diphtheria reported at 5 places more, scarlet fever at 32 places more, typhoid fever at 9 places less, and measles at 10 places more in the month of December, 1890, than in the preceding month.

LETTERS RECEIVED.

Dr. F. W. Samuel, Louisville, Ky.; Dr. M. W. Scott, Emerado, N. Dak.; Canton Surgical & Dental Chair Co., Canton, O.; Dr. J. J. Winn, Norwood, O.; Dr. W. E. B. Davis, Birmingham, Ala.; Dr. B. W. Davis, Montgomery, Vt.; Dr. E. B. Woodruff, Auburn, N. Y.; Dr. E. P. Robinson, Orange City, Fla.; Valentine's Meat Juice Works, Richmond, Va.; Dr. M. A. Bogie, Kansas City, Mo.; Dr. W. H. Siebert, Steelton, Pa.; Miss Mary D. Troye, South Manchester, Conn.; Dr. A. O. Gilman, St. Cloud, Minn.; Worcester District Med. Association, Worcester, Mass.; Dr. L. G. North, Tecumseh, Mich.; Dr. E. H. Dudley, Janesville, Wis.; Dr. G. W. Murphy, Danbury, Ia.; Drs. J. W. and R. La Grange, Marion, Ia.; Dr. John Casson, Alexandria, La.; Dr. R. Harvey Reed, Mansfield, O.; Dr. C. H. Bruner, Greenfield, Ind.; Kegan Paul, Trench, Trübner & Co., London, Eng.; Horlick's Food Co., Racine, Wis.; Sharp & Dohme, Baltimore, Md.; Dr. I. A. McSwain, Paris, Tenn.; Dr. J. H. Thompson, Lansing, Ia.; Dr. J. Wm. Trabert, Annville, Pa.; Dr. F. W. Dimmitt, Oneida, Ill.; Dr. B. F. Hart, Marietta, O.; Dr. H. B. Tanner, South Kaukauna, Wis.; Dr. C. W. Rook, San Antonio, Texas; Dr. D. S. Booth, Belleville, Ill., Dr. W. J. Robinson, Lapeer, Mich.; Dr. L. H. Calloway, Nevada, Mo.; Dr. Henry Baker, Lansing, Mich.; Dr. A. B. Baker, Atlanta, Ga.; Dr. Chas. McLean, Griswold, Ia.; Dr. R. Galloway, Bloomington, Ind.; Dr. H. T. Bahnson, Salem, N. C.; Dr. T. E. Schenck, Harveyville, Kans.; Dr. S. S. Stewart, Allegheny, Pa.; Dr. G. M. B. Maughs, San Francisco, Cal.; Dr. Rowland G. Freeman, Dr. D. A. McMichel, Dr. J. I. Bluestone, J. H. Bates, A. W. Jackson, Dr. M. E. Van Fleet, Women's Medical College, American and Continental Sanitas Co., Lehn & Fink, J. Movius & Son, N. Y. City; F. B. O'Conner, Dr. R. M. Wyckoff, Brooklyn, N. Y.; Dr. Dowling, Cincinnati, O.; Rio Chemical Co., Dios Chemical Co., St. Louis; Doliber-Goodale Co., Boston; Dr. C. R. Greenleaf, Washington, D. C.; Dr. W. E. Quine, Dr. Z. P. Hanson, Rush Medical College, Lord & Thomas, Dr. G. Frank Lydston, C. M. Moore, Subscription News Co., Chicago; The Philadelphia Polyclinic, Dr. W. B. Atkinson, Wm. R. Warner & Co., Dr. R. J. Dunglison, Philadelphia; Tarrant & Co., Dr. W. M. Beckwith, Dr. M. R. Klein, Dr. Mary H. Cotton, New York City; H. A. Jones, Dr. W. J. Delahanty, Worcester, Mass.; Dr. G. W. Browne, St. Louis, Mo.; A. J. Cook, Dr. A. L. Hummel, G. H. Rigby, Philadelphia; New Table Co., St. Louis, Mich.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 10, 1891, to January 16, 1891.

First Lieut. Henry D. Snyder, Asst. Surgeon, is relieved from duty at Ft. Reno, Oklahoma Ter., and will report in person to the commanding officer, Camp Guthrie, Oklahoma Ter., for duty at that station, relieving Capt. John L. Phillips, Asst. Surgeon. Capt. Phillips, on being so relieved, will report in person to the commanding officer, Ft. Reno, Oklahoma Ter., for duty at that station. By direction of the Secretary of War. Par. 16, S. O. 11, A. G. O., Washington, January 14, 1891.

PROMOTIONS.

To be Asst. Surgeon with the rank of Captain, after five years' service, in accordance with the Act of June 23, 1874:

Asst. Surgeon Henry S. T. Harris, January 5, 1891.

Asst. Surgeon Leonard Wood, January 5, 1891. A. G. O., Washington, January 12, 1891.

Official List of Changes in the Medical Corps of the U. S. Navy for the two Weeks Ending January 17, 1891.

Surgeon M. L. Ruth, ordered to the U. S. S. "Newark," February 2, 1891.

P. A. Surgeon W. H. Rush, detached from U. S. S. "Saratoga," and to the U. S. S. "Newark," February 2, 1891.

P. A. Surgeon Richard Ashbridge, ordered to the U. S. S. "Saratoga."

Medical Director W. T. Hord, ordered as President of Medical Board, to relieve Medical Director J. Y. Taylor.

Medical Director R. C. Dean, detached from hospital, Chelsea, and to Medical Board, Washington.

Medical Director J. Y. Taylor, to be placed on the Retired List January 22.

P. A. Surgeon W. H. Rush's orders to the "Newark" are revoked.

P. A. Surgeon Richard Ashbridge's orders to the "Saratoga" revoked, and wait orders.

P. A. Surgeon A. G. Cabell, detached from ironclads and to the "Newark."

P. A. Surgeon G. P. Lumsden, ordered to the ironclads at Richmond, Va.

CORRIGENDA.

In the List of Permanent Members published in THE JOURNAL for Dec. 27, 1890, page 935, for Wm. J. Craw, read *McCaw*; page 937, the address of Dr. Rienzi Robinson should read *Danielsonville*, Conn.; that of Dr. W. J. Robinson, Lapeer, *Mich.*, and that of Dr. E. Paul Sale, Memphis, *Tenn.*